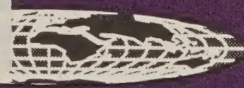


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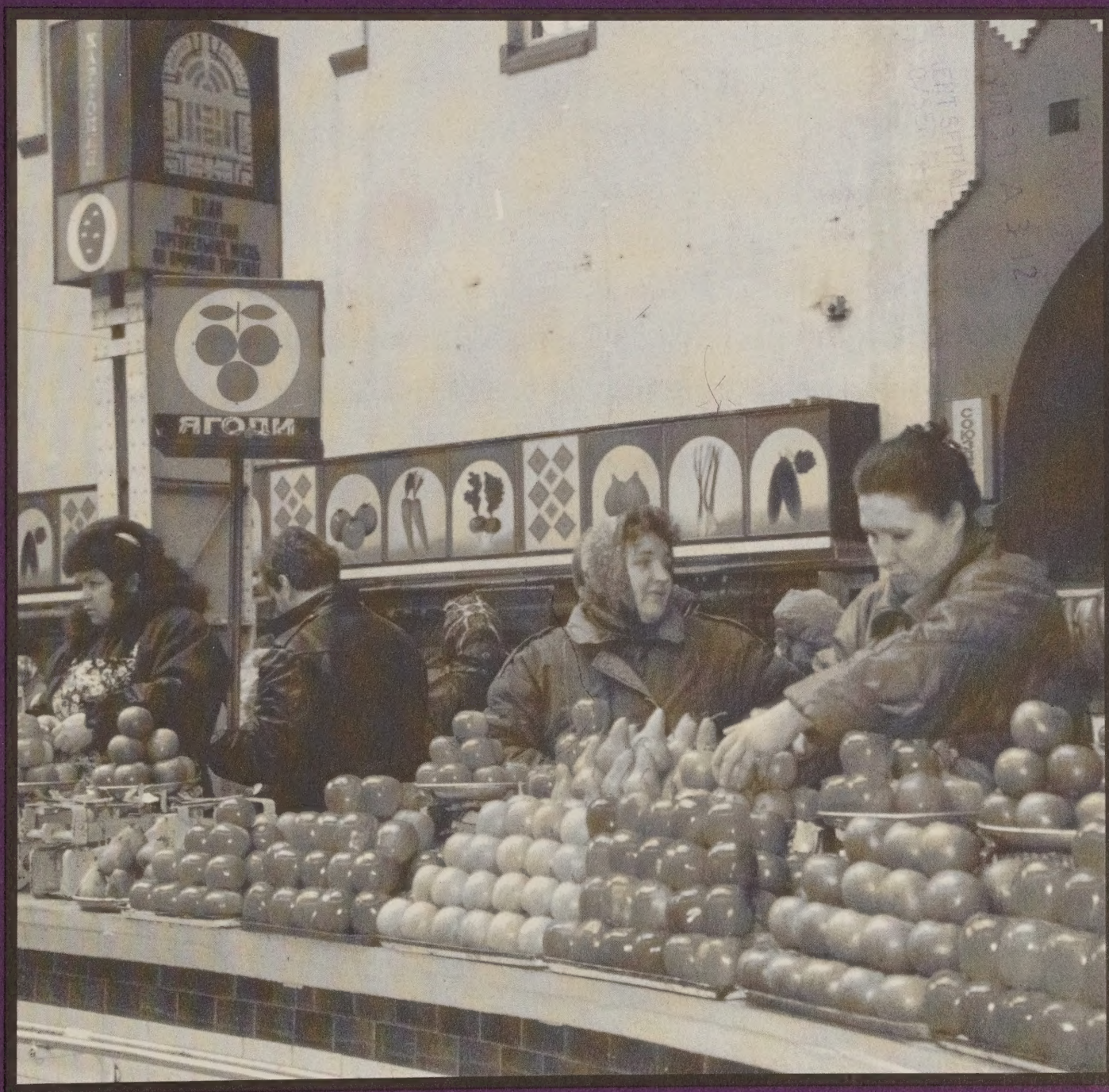
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Economics Editors

Sharon S. Sheffield
William M. Liefert

Data/Graphics Coordinator

Olga Liefert
(202) 219-0620

Authors

Christian J. Foster
Kenneth Gray
Roger L. Hoskin
William M. Liefert
Yuri Markish
Jay K. Mitchell
David J. Sedik
Sharon S. Sheffield

Technical Editor

Diane Decker

Student Interns

Stefan Virizlay
Frederick Burkhardt

Cover Photo

Sharon S. Sheffield

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Preface

The term "former Soviet Union" (FSU) used throughout this report refers to the sum of 15 individual countries--the 12 newly independent states of the former USSR (Russia, Ukraine, Belarus, Uzbekistan, Kazakstan, Georgia, Azerbaijan, Moldova, Kyrgyzstan, Tajikistan, Armenia, and Turkmenistan) and the 3 Baltic countries (Estonia, Latvia, and Lithuania). The Commonwealth of Independent States (CIS) is comprised of the FSU countries minus the Baltics. The term "intra-FSU" trade used in this report refers to trade among the 15 countries identified above (correspondingly, "intra-CIS" trade is used to denote trade between the CIS member states). "Extra-FSU" trade refers to trade between an FSU country and countries not included in the FSU region.

Please note that we have adopted the new spelling of Kazakstan (no "h"), which was approved by the State Department in early 1996.

Also throughout the report, economic reform in the FSU countries is defined as changes in institutions and policies that help foster development of a market economy. Institutional reform includes privatization and the creation of market infrastructure, such as systems of market information, banking and finance, and commercial law. Macroeconomic reform policies include reducing inflation (necessary for money to be well-functioning), tightening monetary and fiscal policy, and stabilizing the exchange rate. Trade liberalization is defined as reducing direct state management of trade, as well as specific trade controls, such as tariffs and quotas. Terms involving future periods of time are defined as follows: the "near term" means the next 1-3 years; "medium term" the next 4-6 years; and "long term" 7 years and beyond.

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Russian Ruble/Dollar Average Monthly Exchange Rate

	1990	1991	1992	1993	1994	1995	1996
January	10.27	25.26	197.50	495.42	1,451.64	3,859.42	4,689.00
February	12.32	34.32	186.00	569.00	1,575.82	4,259.40	4,765.00
March	13.52	36.08	152.26	664.56	1,741.20	4,748.68	4,837.00
April	15.91	35.19	153.56	767.22	1,791.55	5,029.86	4,904.00
May	20.59	38.10	121.72	928.25	1,882.28	5,062.32	
June	24.17	40.55	125.99	1,080.00	1,958.15	4,718.00	
July	24.17	52.40	143.37	1,024.55	2,025.71	4,514.95	
August	23.47	51.98	168.16	985.84	2,121.74	4,412.62	
September	22.29	55.05	223.92	1,068.64	2,342.27	4,472.33	
October	22.29	63.70	359.38	1,187.14	3,046.52	4,501.50	
November	20.18	107.20	426.38	1,194.45	3,151.43	4,549.41	
December	22.88	169.73	414.50	1,240.42	3,345.53	4,621.00	
Annual average	19.34	59.13	222.73	933.79	2,202.82	4,562.46	4,798.75

Averages based on results of foreign exchange auctions held by Vneshekonombank and Moscow Interbank Currency Exchange auctions organized under the auspices of Gosbank.
Sources: *Kommersant*; *Ekonomika i zhizn'*; International Monetary Fund Economic Review; World Bank.

Summary

As Consumer-Ready Imports Rise, Trade Barriers Grow

U.S. agricultural exports to the countries of the former Soviet Union (FSU) are projected to increase for the first time in 5 years to \$1.6 billion in fiscal 1996. Expanding exports of high-value products (HVPs) are driving the growth. The persistent contraction of the FSU livestock sector continues to keep the region's grain imports at record lows.

Russia, the primary FSU food importer, was the top destination for U.S. poultry meat for the second straight year in 1995, with poultry purchases totaling over \$600 million. Russia is also a growing market for other U.S. animal products, fruits and vegetables, and beverages. Although U.S. exports account for 10-15 percent of total Russian HVP imports, the U.S. market share could expand through increased product promotion and investment in the country.

Russian agriculture appears to suffer from a price/cost disadvantage vis-a-vis most imported foodstuffs. In the near to medium term, Russia is likely to remain uncompetitive in price--and thereby a net importer--for many commodities, especially livestock products, assuming it does not adopt strongly protectionist policies. In recent years, Russia (as well as Ukraine and certain other FSU nations) has been expanding controls on agricultural imports, using tariffs and nontariff measures.

In most FSU countries (except the Baltic States) institutional reform in the production side of the agricultural economy has moved very slowly. The official "reorganization" of farms in Russia and other FSU nations in the early 1990s did little to change their organization, managerial behavior, or internal incentive structure. Land reform remains stifled. Farms have been able to avoid institutional reform largely because state subsidies continue to buttress them. The subsidies often take the indirect form of the state not calling in, or canceling, loans to farms.

By propping up farms, the continued subsidization has two negative consequences for the economy. First, agriculture does not shed resources with low productivity that could be better used elsewhere. For example, although most Russian farms specializing in livestock production are unprofitable, few have ceased functioning. Second, the subsidies reduce pressure on farms to reform their managerial and work incentive practices, which would increase the productivity of resources used.

By helping to keep productivity in agriculture low, the subsidies work to keep production costs high. This hurts farms' ability to compete with foreign output. The subsidies, and accompanying lack of farm institutional reform, are thereby part of the reason Russia and other FSU countries are imposing more restrictions on agricultural imports.

Market reform, particularly price liberalization, has motivated some improvement in farm productivity. By hurting agriculture's terms of trade, price liberalization has reduced farms' purchases of inputs (such as machinery, fuel, fertilizer, and pesticides). This has stimulated farms to use those inputs they do buy more productively.

In 1995, the livestock sector continued to contract, with output falling more than 10 percent due to declining productivity and inventories. At the same time, meat imports from non-FSU countries grew to 1 million tons. One reason is that the real appreciation of the ruble against the dollar increased the competitiveness of imports vis-a-vis high-cost domestic output, despite rising tariffs. However, a significant rebound in 1996/97 grain output could lower currently high grain prices and improve FSU producers' terms of trade, resulting in a temporary lift for the livestock sector and possibly reducing imports. Over the long term, the FSU livestock sector should stabilize and grow slowly, as economic recovery spurs demand. However, long-term FSU meat imports are projected to remain near 1995 levels, with purchases of poultry declining slightly as those of beef and pork grow.

Total FSU grain imports are forecast to decline 20 percent in 1996/97 to a record low for the third straight year. Also, domestic production is projected by USDA to increase more than 25 million tons from 120 million in 1995/96. The higher output is based on rising production in Russia and Ukraine, where increased area planted to winter grains and lower winterkill point to an improved crop. A reduction in the state's role (at the national level) in grain marketing has caused producer grain prices to approach world levels, most noticeably in Russia and the Baltics, where market reforms have made the most progress. Farmers have responded by expanding area to those grains (and crops) for which returns are highest.

Over the long term, FSU grain output is forecast to increase due to higher yields and growing demand for feed. As a result, FSU grain imports should remain minimal, with intra-FSU flows accounting for most of the region's grain trade.

Agricultural Policies Mitigate Production Declines, But Have Considerable Costs for the Countryside

In the past 4 years macroeconomic policies intended to establish more market-oriented economies in the former Soviet Union have caused significant restructuring of agricultural production and trade, and have prompted farms to use inputs more efficiently. Agricultural support policies, on the other hand, have more impeded, rather than encouraged these effects. Support policies have also inhibited institutional changes at the farm level that are necessary to make FSU farms profitable. The support helps to preserve Soviet-era management on former state and collective farms. It also works to preserve state procurement, impedes formation of a land market, limits inter-oblast trade, and depresses rural income. Most former state and collective farms are unprofitable, which then becomes a justification for further state support. Finally, poor financial performance virtually guarantees that private investment (with its accompanying productivity increases) in the sector will largely avoid former state and collective farms [David J. Sedik].

In the past 4 years a number of macroeconomic policies intended to establish more market-oriented economies in the FSU countries have caused significant restructuring of agricultural production, consumption and trade. Price liberalization has caused livestock production, and correspondingly, animal inventories, to drop to levels more consistent with market demand. For instance, between 1990 and 1995, meat production dropped 41, 47, and 44 percent in **Russia**, **Ukraine**, and **Kazakhstan**, respectively, while grain for feed use in these countries dropped 49, 39 and 65 percent. FSU grain imports from the West dropped to their lowest levels since the 1960s.

Fiscal tightening has meant that farms now receive less discretionary financial support from the federal budget and banking system. As a result, agricultural production and inventory decisions now better reflect actual (rather than subsidized) costs of production. Moreover, in all FSU countries the quantity of purchased agricultural inputs has fallen precipitously, while the efficiency with which inputs are used has increased significantly.

On the other hand, *agricultural policies* have attempted to mitigate the output drop caused by price liberalization, limit the input reductions caused by fiscal tightening and deteriorating terms of trade, and moderate the competitive pressures on livestock producers caused by trade liberalization. They have done this in a number of (rather costly) ways. In **Russia**, for example, federal and regional budgets have subsidized unprofitable livestock production and agricultural inputs. Moreover, the federal government has repeatedly either assumed or forgiven the overdue debt of agricultural enterprises. **Ukraine** and **Kazakhstan** have followed similar, though less transparent, policies.

These agricultural policies have preserved a countryside of financially nonviable farms. In **Russia** and **Ukraine**, approximately 80 percent of agricultural land belongs to former state and collective farms (table 1). In **Russia** in 1995, 70 percent of these farms were unprofitable (even if all subsidies are

included in revenue). Ultimately, the policies delay or prevent efficiency gains that financial pressures on farms can bring. By preserving loss-making farms, policies make agriculture an unlikely prospect for private investment with its associated labor productivity gains. Low farm labor productivity means low farm wages. Repeated rescheduling of overdue farm debt preserves the state and collective farm management of years past, which is probably better suited to preserving old privileges and rent-seeking than to cutting costs aggressively and improving agricultural marketing. Moreover, continued debt forgiveness blocks the formation of a land market.

Table 1 — Former state and collective farms in Russia and Ukraine, 1991–1994

Year	Number of farms, Jan. 1	Percent of total agricultural land	Per farm land area	Profitable farms
		<i>Percent</i>	<i>Acres</i>	<i>Percent</i>
Russia				
1991	25,800	95.3	23,760	na
1992	25,500	86.7	22,125	95
1993	26,600	82.7	21,350	90
1994	26,900	80.5	20,918	41
Ukraine				
1991	13,345	93.5	7,163	na
1992	14,293	87.2	5,814	na
1993	15,081	86.1	5,699	na
1994	15,462	85.1	5,541	na

na = Not available.

Sources: Sel'skoe khoziaistvo Rossii, 1995; Russian Ministry of Agriculture; Sil's'ke gospodarstvo Ukraini: statistichnii zbirnik, 1995.

State Support for Agriculture, Though Lower, Perpetuates Old Behavior

Direct state support for agricultural producers in **Russia** has dropped considerably since 1992 (table 2). As a portion of GDP, direct support fell from 3.9 percent in 1992 to less than 1 percent in 1995 and 1996. However, direct budget support to producers does not account for all state support of agriculture. A more thorough measurement shows that planned *direct* and *indirect* state support to **Russian** agriculture in 1995 was about 4 percent of GDP, approximately the level of agricultural support in Finland or Norway. Indirect support included about 20 trillion rubles (\$4.4 billion) in special tax privileges for agriculture and 7-13 trillion rubles (\$1.5-2.8 billion) in "commodity credits." The federal program of "commodity credits" (which began in spring 1995) refers to the value of direct shipments of fuel from energy producers to farms for spring planting. The shipments count as in-kind tax payments to the federal government for the energy industry, which agricultural enterprises are supposed to repay to the government after harvest (but often do not). Also included in indirect support is the value of debts rescheduled in 1995, about 15 trillion rubles (\$3.3 billion), which is supposed to be paid back in equal installments over the next 10 years (by Presidential Decree 46-F3 of April 24, 1995), and the amount saved by agricultural enterprises, which are entitled to purchase electricity at discount prices (about 5 trillion rubles or \$1.1 billion).

For 1996, *direct* planned **Russian** federal budget support is 13.2 trillion rubles (\$2.6 billion). Indirect payments, such as tax privileges, will continue as well. The commodity credit program is slated to expand to 18.9 trillion rubles (\$3.8 billion), debts forgiven or rescheduled total at least 23 trillion rubles (\$4.6 billion), and the program of electricity discounts continues. Together, these discounts amount to about 86 trillion rubles (\$17.2 billion), or 3.8 percent of forecast GDP.

However, the cost of these policies lies not so much in the *level of support*, but in how the support affects *farm-level incentives*. The economic cost of preserving unprofitable, collectively owned farms by continual debt forgiveness is the absence of a land market, distorted resource allocation and the preservation of state procurement. First, without a substantial threat of losing their job or confiscation of assets by creditors, the management of these enterprises have little incentive to remake farms into viable profit-making enterprises by changing their ownership structure, downsizing, and radically cutting costs. Debt forgiveness and government financial help encourages rent-seeking, and larger, more politically important and connected farms usually enjoy greater success in seeking debt forgiveness. Thus, collectively owned farms with soft budget constraints resist being broken up into smaller, more viable market enterprises, and remain much larger than the largest farms in the United States. In sum, preservation of nonviable large former state and collective farms blocks the formation of a land market. Second, "com-

Table 2—Support to the Russian agro-industrial complex, 1992–96 ¹

	1992	1993	1994	1995	1996
<i>Billion rubles</i>					
Total direct support	703	3,966	10,158	13,000	13,170
Capital investment	178	935	1,375	2,893	4,918
Other expenditures	112	526	1,811	2,477	3,104
Subsidies	413	2,505	6,971	7,630	5,148
Total indirect support	na	na	na	55,692	73,356
Tax discounts	na	na	na	20,000	20,000
Commodity credits	na	na	na	13,000	18,900
Forgiven and rescheduled loans	na	na	na	17,500	26,100
Electricity discounts	na	na	na	5,192	8,356
Total direct and indirect support	na	na	na	68,692	86,526
<i>Percent</i>					
Total direct and indirect support to agriculture as a percent of:					
Consolidated budget expenditures	na	na	na	14.1	na
Federal budget expenditures	na	na	na	24.9	19.9
GDP	na	na	na	4.1	3.8

na=Not available.

¹ Figures for 1992–94 are actual, 1995–96 planned or estimated; for 1992–94, the totals include both federal and local support; for 1995 and 1996, totals include only federal support.

Sources: Institute for the Economy in Transition; Goskomstat Rossii; USDA/ERS.

modity credits" are a resurrection of the state-guaranteed supply of inputs according to production target requirements, a cardinal feature of the previous planned system. These policies encourage farms to lobby for increased fuel deliveries, rather than adjust input purchases according to relative prices.

Regional Agricultural Policies Fragment Markets, Support Unprofitable Livestock Production

Since 1993, most agricultural policies in **Russia** have been carried out at the local level. Local policies include procurement of agricultural commodities, oblast trade policies, and local subsidies (including all direct livestock subsidies). The cost of these policies lies in the limitations they put on private trade between regions. Restrictions on trade reduce incentive to develop the infrastructure of trade, namely transportation, communication, market information, and road construction.

Procurement and Oblast Trade Policies

In 1995, approximately one-third of marketed grain was sold to the state. Of this amount, 90 percent was paid for out of local budgets. But the economic costs of local grain procurement lie not so much in their size, but in restrictions on sales outside of the region before local procurement quotas are met. Policies vary from oblast to oblast, but producers in many regions are routinely required to fulfill local procurement quotas at low state prices before they are allowed to sell on private markets outside of the oblast. Grain price data support the hypothesis that state procurement prices in 1995 tended to be less than free market prices, though farms that sold to the state could often purchase inputs on favorable terms. Barriers to trade fragment markets for agricultural commodities, limit specialization of production, and raise prices for the free market.

Livestock Subsidies

In 1993 responsibility for livestock subsidies was transferred to the regional level. Livestock subsidies in 1994 amounted to nearly 30 percent of total federal and regional subsidies for agriculture (table 2, point 3). Table 3 shows the portion of gross revenue (by crop and livestock product) received from subsidies for a sample of agricultural producers. This table shows that the bulk of direct subsidies were for livestock products, rather than crops (except for flax).

More important than the level of subsidies is that livestock subsidies support production which clearly should decline further, since livestock production was unprofitable in nearly all regions of **Russia** in 1993, 1994 and 1995 (even if direct budget subsidies are taken into account).

Subsidies tend to preserve livestock production in regions that would not produce without the support. In other words, they tend to limit specialization of livestock production. The degree to which subsidies have limited specialization can be judged by considering the magnitude of and changes in specialization of production in **Russia**. Table 4 shows the coefficient of variation of meat production for Russia by oblast, for the United States by State and for the EU by country. The coefficient of variation is a standardized measurement of the variance of production levels, so that the larger the value of

the indicator, the larger the difference in levels of production between areas. Therefore, the larger the value of the coefficient of variation, the more an area appears to have regions that produce a great deal of a particular product and others which produce very little.

There are some clear trends in the table that indicate the comparative degree of specialization in the three regions.

Table 3 — Direct subsidies as a portion of total gross revenues, Russia ¹

Commodity	1993	1994	1995 ²
<i>Percent</i>			
Grain	0.3	0.6	5.4
Sunflowerseeds	0.0	0.3	0.4
Sugarbeets	0.0	1.6	3.2
Potatoes	0.0	0.6	5.6
Vegetables	0.0	4.3	1.9
Flax	59.2	73.0 ²	na
Milk	25.5	22.8	11.2
Cattle	19.8	27.4	8.6
Hogs	18.8	22.9	10.9
Sheep	24.9	44.5	19.0
Poultry	17.7	20.5	10.9
Wool	31.4	55.5	40.0
Eggs	14.6	13.1	6.9

na = Not available.

¹ Data are for a representative sample of 8 former state or collective farms. ² Preliminary.

Source: Russian Ministry of Agriculture and Food.

Table 4 — Specialization of meat production, 1986–95 ¹

Region	1986–90	1991	1992	1993	1994	1995
<i>Coefficients of variation ²</i>						
Russia	0.77	0.76	0.74	0.73	0.74	0.75
U.S.	na	1.09	1.07	0.97	1.21	na
EU–12	na	0.67	0.65	0.64	0.65	0.66

na = Not available.

¹ For Russia by oblast; for the U.S. by state; for EU–12 by country.

² A standardized measure of the variance of the production level of meat in each year, by region.

Sources: Goskomstat Rossii; USDA/ERS.

This is despite the fact that the information in table 4 is an imperfect indicator of regional specialization, since the political borders of regions likely do not coincide with the areas of expected production specialization. Nevertheless, table 4 shows that **Russian** meat production is not as specialized as meat production in the United States, but greater than in the European Union. If we expect increased specialization in Russia, we should look for a gradual rise in the coefficients in Russia toward the U.S. level over a period of years. However, the year to year coefficients jump around too much to judge whether production in Russia (or the United States and EU, for that matter) is becoming more or less specialized quite yet.

A Countryside of Failing Farms

Although agricultural support policies in **Russia**, **Ukraine**, and **Kazakhstan** tend to block the formation of land markets, governments in these countries have issued laws, decrees, and regulations to promote restructuring of former state and collective farms, as well as the formation of land markets. It is no surprise that efforts in this direction have progressed quite slowly.

Restructuring of former state and collective farms into viable economic units has made very little progress in **Russia**, **Ukraine**, and **Kazakhstan**. The process, which commenced first in **Russia** (in 1991), has been similar in the three countries. The first step has been a voluntary reclassification of farms, under which each may reregister under a new form of ownership. The main choices are to reregister as either a joint stock company or a cooperative of private farms, or to remain as before. Most farms in **Russia** reregistered as some form of joint stock company or remained collective or state farms. The second step has been distributing title shares in the joint stock companies to the employees of the farm, as well as pensioners in the community. The third step has been reorganizing the joint stock companies into viable farms with clearly defined (rather than collective) property rights.

The restructuring legislation in **Russia**, **Ukraine**, and **Kazakhstan** has fallen short in establishing viable agricultural producers, as well as in establishing a working land market. The main reason is that the former state and collective farms are not interested in restructuring into smaller, more viable farms. Nor are these farms forced to restructure by their financial circumstances. About 80 percent of agricultural land in **Russia** remains under the management of the (former) state and collective farms in both **Ukraine** and **Russia**, most of which have now been reorganized as joint stock companies (table 1). For these farms the reorganization since 1992 has been largely nominal. They continue to receive subsidies and directives from local governments. In **Russia**, overdue loans from 1993-94 were effectively written off at the end of 1994 and beginning of 1995. Moreover, although by law each shareholder in these companies is supposed to have the right to exit the farm with his individual share of its assets (and then possibly become an individual farm, lease-holder or joint stock company), the majority have either not yet received that right practically or do not consider the terms advantageous.

The result of failed farm restructuring and land reform is that the majority of former state and collective farms are not financially viable. Despite subsidies, the financial performance of these farms has worsened since 1992 (table 1). *Though size alone is not a determining factor*, it is one indicator of the degree of change still needed by these former state and collective farms. In the beginning of 1994, a former state/collective farm averaged about 14,000 acres in **Russia** and 5,500 acres in **Ukraine**. Compare this with the largest American farms earning over \$250,000 per year, which in 1990 averaged 2,256 acres.

Agricultural Support and Poor Financial Performance Delay Private Investment and Technological Change

In the past 4 years, macroeconomic reform policies in the FSU have caused a number of changes in agricultural production, consumption, trade, and finance that are consistent with the establishment of a market-oriented economy. Agricultural production, consumption, and trade have become more consistent with consumer income and preferences. Farms now receive less discretionary financial support from the state than in the Soviet period, so that agricultural production and inventory decisions now better reflect actual (rather than subsidized) costs of production. Moreover, a worsening of the terms of trade for farms has caused them to increase the efficiency with which they use agricultural inputs significantly.

Nevertheless, the pace of institutional change necessary for the creation of financially viable farms has greatly lagged behind the pace of production changes. The level and the discretionary manner in which state support is distributed to farms greatly reduce the likelihood that unprofitable farms will exit the industry, and dilute incentives to cut production costs. By protecting bankrupt farms from the need to change management or shed unneeded assets (such as land or labor) and by inhibiting free trade, agricultural support policies preserve a countryside of failing farms, ultimately deterring investment in agriculture.

With the expected return of economic growth in 1997 in **Russia** and in the other countries of the FSU shortly thereafter, demand for meat will most likely increase. Increased domestic demand may eventually raise meat prices. Despite this prospect, the outlook for FSU animal husbandry is less than favorable, mainly because current agricultural policies discourage private investment (with its accompanying productivity improvements) in primary production and processing. They do this by preserving a countryside of financially nonviable farms and by granting effective control of corporatized processors to the management of these farms. By **Russian** law, a controlling packet of shares in each corporatized processing plant is supposed to be granted or sold to primary producers at highly discounted prices. In **Ukraine**, Parliament has passed and President Kuchma vetoed such a law twice. By so limiting the decision-making freedom of processors, such laws make it highly unlikely that processors will be able to become profitable enough to then invest in primary production. In addition, if only 30 percent of **Russian** managers of former state and collective farms were successful

in keeping their own farms in the black, why should they be expected to do better with agricultural processing plants?

Because animal husbandry is more capital intensive than crop production, lack of private investment from either inside (food processors) or outside the agroindustrial sector disproportionately affects the competitive position of livestock producers. In the end, poor financial performance of farm management points toward continued meat imports for the foreseeable future, and continued pressure from the agricultural lobby for protection.

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FSU Macroeconomies Moving Closer to Stability

The FSU countries continue to move toward greater macroeconomic stability. In 1996, the Baltic States will probably grow, while Russia will most likely achieve positive growth by 1997. For those FSU nations that are still a few years away from economic growth, the annual percent declines in GDP should continue to shrink. Throughout the FSU region, the drop in GDP, as well as industrial production, was much lower in 1995 than in 1994 (table 5). Since the official macroeconomic figures still fail to capture some of new private enterprise, especially in services, the output declines are in fact overstated. In the major FSU countries, GDP and industrial production in 1996 will probably drop less than 5 percent.

The trend of decreasing inflation should also continue in 1996, with the annual rate in most countries falling below 100 percent. The main reasons are stricter monetary policy and declining budget deficits. A major pillar of this financial discipline is the stabilization programs that various countries, such as **Russia, Ukraine, Kyrgyzstan, and Moldova**, have established with the IMF.

However, the above forecasts of improving output and price stability rest on the assumption that to at least some degree economic reform continues. All FSU countries have anti-reform factions, such that in coming years a number of nations could possibly come under the control of anti-reform governments. A leading contender in the Russian presidential election in June 1996 is Gennadii Ziuganov, head of the Russian Communist Party, which has been generally critical of economic reform. Conceivable anti-reform policies in Russia and other retrograde countries could lead to increased subsidies to agriculture as well as industry, and a rise in wages to state workers, pensions, and social-welfare payments. Such spending would reignite inflation. Possible state controls or renationalization of private firms, particularly in services, finance, and commercial middleman activities, could suppress much of recently created private enterprise.

Although the goal of any new anti-reform government would be to increase output, real GDP would probably soon fall. Not only would much of newly-developed private enterprise die, but the return to dysfunctional money from high inflation would hurt commerce throughout the economy. [William M. Liefert]

Table 5 — Economic indicators, FSU countries

Item	1992	1993	1994	1995 ¹
<i>Percent change</i>				
Russian Federation				
GDP	(14.5)	(8.7)	(12.6)	(4.0)
Industrial production	(18.0)	(14.1)	(20.9)	(3.3)
Agricultural production	(9.4)	(4.4)	(12.0)	(8.0)
Consumer prices	2,564	840	215	131
Budget deficit (as % of GDP) ²	3.2	4.6	10.3	2.4
Ukraine				
GDP	(13.7)	(14.2)	(23.0)	(12.3)
Industrial production	(6.4)	(8.0)	(27.3)	(11.5)
Agricultural production	(8.0)	2.0	(16.7)	(10.0)
Consumer prices	2,000	10,160	400	180
Budget deficit (as % of GDP) ²	na	5.1	9.4	5.2
Belarus				
GDP	(9.6)	(10.6)	(15.8)	(10.0)
Industrial production	(9.4)	(7.4)	(17.1)	(11.5)
Agricultural production	(9.0)	4.0	(14.0)	(6.0)
Consumer prices	970	2,000	1,956	245
Budget deficit (as % of GDP) ²	2.0	5.6	3.3	na
Kazakhstan				
GDP	(13.0)	(12.9)	(24.6)	(8.9)
Industrial production	(13.8)	(14.8)	(28.5)	(7.9)
Agricultural production	1.0	(5.0)	(20.1)	(21.0)
Consumer prices	1,510	2,170	1,160	62
Budget deficit (as % of GDP) ²	(1.4)	(1.9)	(0.5)	(0.3)
Uzbekistan				
GDP	(11.1)	(2.4)	(3.5)	(0.5)
Industrial production	(6.7)	3.6	1.6	0.2
Agricultural production	(6.4)	1.0	(7.7)	(3.0)
Consumer prices	600	713	1,280	135
Budget deficit (as % of GDP) ²	10.9	3.0	4.8	0.2
Estonia				
GDP	(14.3)	(8.2)	(3.2)	3.0
Industrial production	(29.0)	(25.0)	(5.0)	(2.0)
Agricultural production	(17.9)	(16.6)	(12.0)	(4.0)
Consumer prices	1,070	90	48	30
Budget deficit (as % of GDP) ²	na	na	na	na
Latvia				
GDP	(34.9)	(14.9)	0.6	(1.2)
Industrial production	(40.0)	(32.0)	(6.0)	na
Agricultural production	(28.6)	(13.8)	(28.6)	na
Consumer prices	959	35	26	24
Budget deficit (as % of GDP) ²	3.0	0.2	1.9	3.5
Lithuania				
GDP	(34.0)	(27.1)	0.6	3.1
Industrial production	(30.0)	(34.0)	(28.0)	7.9
Agricultural production	(23.8)	(7.7)	(18.0)	1.8
Consumer prices	1,163	189	45	36
Budget deficit (as % of GDP) ²	1.5	1.1	1.0	1.5

na = Not available. () = Negative value.

¹ Figures for consumer prices are estimates.

² Figures do not give percent change from previous year.

Figures in parentheses mean budget surplus rather than deficit.

Sources: Statkom SNG; Goskomstat Rossii; OECD; USDA/ERS.

Russian Agriculture Could Remain Uncompetitive on World Market, Even if Reform Continues

In the more quickly reforming FSU nations, such as Russia and the Baltic States, reform-related developments are strongly affecting foreign trade. Because of trade liberalization, trade is increasingly being determined by the price competitiveness of a country's output vis-a-vis the world market, rather than by state decision making. Also, movement toward macroeconomic stabilization is causing the currency to rise in real terms against Western currencies. By making imports less expensive, currency appreciation is making domestic agricultural output less price competitive. A comparison of domestic and world prices for Russia suggests that the price/cost disadvantage vis-a-vis the world market from which Russian agriculture currently appears to suffer could continue in the near to medium term. If so, the country would remain a net importer of many agricultural goods (assuming it does not adopt strongly protectionist policies). The Russian agricultural establishment is responding by lobbying heavily for protection against imports. [William M. Liefert]

At the beginning of economic reform in 1992, most FSU countries began liberalizing their foreign trade. Controls were more common on exports than on imports, taking the form of quotas, licenses, taxes, and complete bans on outflows. The export restrictions have since been steadily diminishing. In **Russia** at the national level, virtually no controls on agricultural exports currently exist. However, in the more reformist countries (**Russia**, the **Baltic States**, and **Ukraine**), tariffs and other controls have been increasing for agricultural imports. These restrictions might appear to conflict with the countries' market-oriented reforms, an issue discussed later. Yet, the import controls at present are not trade-prohibitive. In **Russia** and **Ukraine**, existing tariffs for most agricultural imports range from 15 to 30 percent.

The more a country liberalizes its foreign trade, the more its trade mix and volume are determined by its price competitiveness in the world market. In evaluating the price/cost competitiveness of **Russian** agriculture, two main costs of output must be considered: the cost of primary production, and transaction costs--that is, the cost of delivering output from the farm to the site(s) where it competes with foreign output. Table 6 compares domestic producer prices for Russian agricultural goods in 1994, which reflect the cost of primary production, with world trade prices. The data can be used to examine the price competitiveness of Russian agriculture not only in 1994, but also in coming years (given general assumptions about the future of economic reform). The data suggest that Russia has been price competitive vis-a-vis the world market, if one ignores Russian transaction costs and compares producer prices alone with world prices.

Data are not available concerning the full internal transaction costs for Russian agricultural goods. Yet the data and information that can be found indicate that these costs are quite high, such that if transaction costs as well as producer prices are appropriately taken into account, Russia has not been agriculturally competitive vis-a-vis the West. Moreover, the data in table 6 indicate that in the near future many Russian

agricultural commodities could become even less competitive, such that Russian producer prices by themselves exceed world prices. The main cause of worsening competitiveness would be the continued real appreciation of the ruble. If so, Russia would remain a net importer of many commodities, as well as a net agricultural importer in aggregate value terms (assuming it did not become strongly protectionist).

Russian Agriculture Has Not Been Price Competitive, if All Costs Considered

The Russian producer prices in table 6 are in fact subsidy-adjusted "incentive prices," that is, the actual average producer price received by farms plus per unit state subsidies. To function as a measure of a country's free-trade competitiveness, prices should reflect full costs of production. For this reason, subsidy-adjusted prices, rather than bare producer prices, are the appropriate values for comparison. The subsidies include credit at preferential interest rates; direct subsidies for livestock producers; and payments for capital investment, input purchases, seeding, crop insurance, land improvement, social-welfare activities of farms, and research.

Russian and world prices are compared by converting the former from rubles to dollars. Two exchange rates are used for conversion, producing two sets of Russian prices for comparison: the actual commercial ruble/dollar exchange rate in 1994 (which is an unweighted average of monthly rates), and a ruble/dollar rate based on purchasing power parity (discussed later). To examine the price competitiveness of Russian agriculture specifically in 1994, the relevant prices to use are those based on the actual commercial exchange rate. At first glance, these prices suggest that Russian agriculture was very price/cost competitive vis-a-vis the world market. For all commodities, the Russian producer incentive price was well below the world price.

Yet, for a Russian agricultural commodity to be competitive with foreign output within Russia, its producer incentive price plus internal transaction cost must be less than the price of

Table 6—Comparison of Russian and world agricultural prices in 1994

	Wheat	Corn	Barley	Sugar – beets	Sunflower – seed	Beef	Pork	Poultry	Milk	Eggs
	<i>Dollars per ton</i>									
World price¹	212	145	138	52	315	2,702	1,958	1,403	314	1,351
Russian producer incentive price										
Commercial ER ²	53	119	36	26	117	719	893	1,139	93	833
PPP ER ³	206	461	138	99	455	2,788	3,463	4,416	360	3,231

¹ Cif at Russian ports. ² ER means exchange rate. ³ Purchasing power parity exchange rate.

Source: W. Liefert, D. Sedik, R. Koopman, E. Serova, and O. Meliukhina, "Producer Subsidy Equivalents for Russian Agriculture: Estimation and Interpretation" (forthcoming in *American J. of Ag. Economics*).

imports at the site of domestic consumption. Russian internal transaction costs for agricultural goods appear to be very high. The main reason is deficient physical and institutional infrastructure for internal movement of agricultural goods. The transportation system is particularly poor, while major shortcomings of the institutional infrastructure include the weak systems of rural finance, commercial law, and dissemination of market information. These inadequacies increase the cost (including risk) of transporting, marketing, and selling output. Calculating these costs is quite difficult. However, the information and data available (especially concerning transport costs) indicate that for many commodities and many regions, the values are high relative to producer prices. This point, and the fact that Russia has not been a net agricultural exporter vis-a-vis the West, but rather for many commodities a net importer, indicates that in general Russia has not been agriculturally competitive with the West, when transaction costs as well as producer prices are taken into account.

Another reason Russian producer incentive prices are below prices for imports is that Russian output is lower in quality than that sold on the world market, and therefore should be price-discounted. However, the world prices in the table were chosen for goods traded on the world market that are close in quality to Russian output. Thus, quality differences probably account for only a small part of the disparity between Russian producer and world prices.

Exchange Rate Movements Could Keep Russian Agriculture Uncompetitive

The data in table 6 can also be used to examine the price competitiveness of Russian agriculture in future years, and thereby support predictions concerning Russia's agricultural trade. Two factors that will affect price competitiveness are the costs of primary production and internal transaction costs. Continued reform would almost certainly improve incentives to use resources more productively, thereby reducing production costs. Yet, lowering production costs will require substantial investment and institutional change. The slow pace of institutional reform in Russian agriculture means that work

incentives and productivity are not improving quickly. This keeps private investment (domestic and foreign) in agriculture low, which in turn keeps productivity low. Reducing transaction costs by upgrading the economy's physical and institutional infrastructure also cannot be done rapidly. These points suggest that productivity growth and cost reduction will only come slowly.

A crucial variable in determining Russia's price competitiveness is the ruble's exchange rate. Besides giving prices computed using the actual commercial exchange rate, table 6 also presents Russian producer incentive prices in dollars using a purchasing power parity (PPP) rate between the ruble and dollar. A PPP exchange rate is that at which a given amount of dollars will buy the same basket of goods in either the United States or Russia (after converting the dollars into rubles). While market exchange rates rarely equal PPP rates, PPP rates are "equilibrium" rates, toward which market rates tend to move over the long run. Consequently, Russian prices derived from PPP rates, in contrast to prices based on market exchange rates, provide a more accurate picture of Russia's agricultural price competitiveness in future years, after the disruptions and imbalances of the current transition period have subsided.

The PPP exchange rate used in table 6 is an unweighted average of monthly PPP rates estimated by PlanEcon (*PlanEcon Report*, Vol. 11, Nos. 19-20, p.19). The ratio of the commercial rate to the PPP rate is about 4 to 1, which indicates how strongly the ruble was undervalued in terms of purchasing power parity. This undervaluation is largely responsible for Russia's producer prices being so much lower than world prices. That is, conversion of ruble prices using the undervalued commercial exchange rate yields low dollar-denominated values, as compared to using the PPP rate. However, table 6 shows that if one converts using the PPP rate, Russian producer incentive prices for most commodities are above world prices, in some cases substantially so. Only the PPP price for wheat is below the world level (and just slightly), while prices for barley are equal. Also, Russian prices for beef and milk are not substantially above world levels. How-

ever, Russian prices for corn, pork, poultry, and eggs are quite high vis-a-vis the world market. Russia is especially uncompetitive in poultry, a point supported by the recent surge in imports from the West. The results suggest that in future years Russia might not be price competitive vis-a-vis the world market in most agricultural commodities, and will therefore probably remain in aggregate value terms a net agricultural importer.

The main reason the ruble has been so undervalued is that high inflation and general economic uncertainty have resulted in massive capital flight, particularly at the beginning of reform in the early 1990's. A PPP rate can be viewed as an equilibrium exchange rate for an open, competitive market economy. Thus, the more Russia reforms and stabilizes its economy, and in particular reduces inflation, the faster the commercial exchange rate will move toward the PPP rate. In recent years the Russian commercial rate has been moving closer toward the PPP level. In 1992, the commercial rate was about 12 times PlanEcon's estimated PPP rate, in 1994 about 4 times, and in 1995 only about 2.8 times.

The ruble has been appreciating in real terms mainly because the drop in inflation over time (see table 5) is strengthening confidence in the currency. Computationally, the ruble has been appreciating because Russia's inflation rate has been exceeding the ruble's nominal depreciation rate. It might seem paradoxical that declining inflation is the general cause of real appreciation in the currency, while the technical reason the currency is appreciating is because inflation continues to some degree. Yet, the key point is that inflation has been *falling*, from the extremely high values of about 2,500 and 850 percent in 1992 and 1993, respectively, to only 131 percent in 1995. The large drop in inflation is restoring confidence in the currency, as shown by the fact that in 1995 the ruble depreciated in nominal terms by only about 20 percent. The 1995 inflation rate of 131 percent, though far below that of previous years, was above the nominal depreciation rate of the ruble. The ruble thereby appreciated in real terms.

Three developments, all positively correlated with market reform, would affect Russia's future price competitiveness in agriculture. The two that would improve it, falling transaction and primary production costs (mainly from rising input productivity), can only proceed slowly. However, the development that would hurt competitiveness--slower nominal depreciation of the ruble relative to Russia's inflation, or alternatively, the real appreciation in the value of the ruble--is proceeding more quickly. This suggests that if economic reform continues, in the near to medium term most Russian agricultural commodities will not be price competitive vis-a-vis the world market. Complete data (especially on Russian agricultural subsidies) are not available to compute and compare Russian producer incentive prices in 1995 or early 1996 with world prices. Nonetheless, by early 1996, Russian producer prices for certain crops, such as wheat, were already equal to or only slightly below world prices. If Russia remains uncompetitive in agriculture, and if the country is generally open to trade, it will remain a net agricultural importer in value terms (at least with respect to its extra-FSU trade).

If Russian trade with other FSU countries were at world prices, this trade would be little different than extra-FSU trade; the other FSU nations would simply be part of the world market. Yet, in at least the near term, Russia's intra-FSU agricultural trade will probably retain certain of its special features, such as using large-scale barter deals. These features affect the "real price" at which goods are traded, such that intra-FSU trade prices differ from world prices. Nonetheless, as Russia and its FSU trading partners become more open market economies, intra-FSU trade will increasingly be driven by world prices.

The analysis of how economic reform is affecting Russia's agricultural competitiveness applies to all the transitional economies whose economic reform efforts have been at least as strong as Russia's--Poland, Hungary, the Czech Republic, and the Baltic States. (This also implies that if other FSU countries intensify their reform programs, they will have the same experience.) These nations all inherited from their previous economic system high primary production and transaction costs, such that effective reform that reduces these costs would improve agricultural competitiveness. Yet, at the beginning of reform, these countries all had extremely undervalued currencies, mainly because of lack of confidence in the currency and capital flight. Although undervalued currencies suggest that domestic agriculture was competitive in foreign trade, trade controls and deficient physical and institutional infrastructure largely prevented them from exploiting this opportunity. As reform progressed, the currencies rapidly appreciated in real terms, eroding the countries' apparent price competitiveness in agriculture.

Agricultural interests in Russia, as well as the other transitional economies, have reacted to their worsening price competitiveness and increasing import competition from the real appreciation of their currencies by lobbying for import protection. Another reason agriculture wants protection is that reform is forcing farms to become more self-financing and more responsible for marketing their output. (Although, as pointed out earlier in the report, agricultural subsidies in Russia continue, they are steadily decreasing over time.) Thus, although protectionism involves state interference in markets and reduces trade, in transitional economies it is largely a reaction to developments and policies central to market-oriented economic reform. As opposed to the Soviet period when farms and enterprises were completely insulated from the world market (and therefore indifferent to foreign trade), the growing market pressures from reform are motivating producers to lobby for trade protection, just as enterprises in competitive market economies do.

In 1994, **Russia** and **Ukraine** began restricting agricultural imports. Russia has mainly used tariffs, ranging from 15 to 30 percent, while Ukraine has employed tariffs and licenses. Protectionism is also a likely motive behind **Russia's** threat in early 1996 to ban imports of U.S. poultry, although the stated reason was failure to meet health standards. In most Central and Eastern European countries in recent years, increasing appreciation of the national currency in real terms has coincided with growing protectionism.

Russian Trade Could Change if Communists Come to Power

If the Communist Party wins the **Russian** presidential election in June 1996, a likely (and relatively mild) policy response would be to increase agricultural protectionism, thereby reducing imports. Yet the new leadership could enact much stronger anti-reform policies, which would alter Russia's agricultural trade in ways that make prediction more difficult. A new Communist government would most likely increase spending, thereby raising inflation. The isolated effect of higher inflation on a country's currency is to appreciate its value in real terms. However, the inflationary expectations and renewed capital flight that the inflation would spawn would probably make the ruble depreciate in nominal terms by a percentage greater than the inflation rate. This would make the currency depreciate in real terms. (Recent history shows that countries with accelerating inflation usually see their currency depreciate in real, not just nominal, terms.) Imports would become more expensive, and therefore drop.

Although currency depreciation would improve the price competitiveness of Russian agriculture, other prospective policy changes by a Communist government could prevent agricultural producers from capitalizing on this development. High inflation might motivate the government to impose price controls. To prevent outflows to countries with higher prices, price controls would require export restrictions. The breakdown in the market price and trade mechanism from controls might then lead the state to start allocating input and output more directly, as well as managing foreign trade (perhaps

even reasserting its monopoly over trade). Although introduction of a few anti-market policies would not inevitably reverse all of recent economic reform, it would create strong pressures for regressive, rather than progressive, policy changes.

These anti-reform policies would most likely reduce Russia's agricultural imports from the West by a greater amount than would a less anti-reformist policy of simply increasing protection against imports. The depreciation of the ruble in real terms and loss of potential foreign exchange earnings from any possible export restrictions would reduce the country's ability to finance imports. As during the Soviet period, agricultural imports from the West would be substantial only if the state adopted a deliberate policy, and had the necessary finance, to import.

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Additional FSU Countries Look To Join the World Trade Organization

In 1996, Russia, Ukraine, and the Baltic nations continued their bid for WTO accession, and working parties were formed to evaluate Armenia's and Kazakstan's foreign trade regime. Kyrgyzstan also submitted an accession request in early 1996. The normally lengthy process of WTO accession is more complicated for the FSU countries due to the transitional nature of their economic systems, making it difficult to predict when they will accede. However, eventual WTO membership and the application process itself could bolster market reforms in these countries by checking domestic pressure to increase protection and trade-distorting support. [Sharon S. Sheffield]

While WTO accession may be several years away for **Russia** and the other FSU countries, the accession process itself could be highly beneficial in influencing the direction and pace of economic reform. In many of these countries, pressure to increase protectionism and support to farmers, as well as backtrack on market reforms, is growing. The accession process could strengthen reform by making it more difficult for these countries to increase tariff rates or introduce administered trade barriers prohibited by the WTO.

WTO accession is a lengthy process for most countries, and for those of the former Soviet Union, it is complicated by the

transitional nature of their economies and relatively short existence as independent nations. Before specific negotiations on the terms of entry can begin, a country's trade regime is closely evaluated by the working party (formed when a country applies for WTO accession) and other interested WTO members. In addition, commercial laws, internal support and marketing policies, and trading practices are scrutinized. All the FSU countries applying for WTO accession are at this stage.

Given that WTO rules generally reflect the market orientation of its members, it is likely that a number of FSU policies and

institutions will require some clarification. For many FSU countries, one such area is the status of former state trading organizations, which differs from state trading in most market economies where state trading organizations lower export prices or increase import prices. Under the Soviet system, state trading organizations handled foreign trade, and central planners dictated traded quantities and set internal prices. Although these organizations have mostly been officially converted into joint-stock companies, the government is often a majority or a primary shareholder. As a result, these companies may have preferential access to credit and government procurement orders, and possibly face lower tariff and tax rates. For example, the **Russian** government has made concessional credits available to the city of Moscow for food imports that are tied to purchases of specific quantities from Russian or CIS suppliers. The main issue for the WTO is the extent to which these organizations continue to influence trade levels and direction, and if trade decisions are based on commercial, rather than administrative, considerations (meaning that relative prices--domestic and foreign--play a role in decision making).

One of the main challenges in these countries' accessions specific to agriculture will be the measurement of internal support. The 1994 Uruguay Round (UR) Agreement on Agriculture (cited below as the UR agreement) established the aggregate measurement of support (AMS) as the method to quantify support to the agricultural sector. The agreement provides a framework for evaluating support policies as either trade-distorting or relatively non-distorting. Only trade-distorting policies, such as direct subsidies, price support, and other production-specific budgetary transfers, are quantified in the AMS calculation.

Measuring FSU internal support is made difficult by the lack of historical data to calculate a base for capping and reducing support. Moreover, high inflation rates since 1992 and erratic disbursement of subsidies make measurement of support levels in nominal terms problematic. Evaluating policies that are still evolving from their Soviet form and obtaining accurate data that account for support at federal and regional levels (this is more of a problem for **Russia** than the smaller FSU countries) will also complicate measurement.

Market access was another important principle of the UR agreement, especially with regards to eliminating non-tariff barriers, such as import quotas. In the FSU region, import tariffs are the most common form of protection for agricultural products, although most of the countries have maintained licensing systems for alcohol and tobacco products. Sugar and certain grain products are also under an import licensing system in **Latvia**, where temporary import quotas and licens-

ing were introduced in 1995 for a wider range of commodities. More recently, a law on customs tariffs was passed in Latvia that includes provisions for tariff rate quotas, although none has been introduced to date.

In **Russia**, a decree implementing quotas on vodka and other spirits has reportedly been delayed, possibly due to provisions of the IMF's \$10.2 billion stabilization loan, which requires Russia to continue liberalizing its trade regime. Some Russian officials have called for import quotas for some agricultural products, and while the 1995 Law on State Regulation of Foreign Trade Activity allows for the introduction of quotas, it is unclear if such a policy will be attempted, given that import quotas are inconsistent with the UR agreement. A decree issued by President Yeltsin on April 16 on support measures for agriculture appeared to indicate that Russia might introduce quotas. However, the decree only instructs the government to regulate, on a continuing basis, the level of import tariffs and if necessary, to introduce import quotas on food products in accordance with international rules. Many believe that the decree, and its reference to import quotas, is more related to the presidential campaign than to an actual shift in Russian trade policy.

The use of minimum import prices for customs valuation is growing in the FSU region, in an attempt to prevent undervaluation and possibly as a trade barrier to raise import prices. Such a policy is not consistent with WTO rules, which prohibit the use of artificial prices for customs valuation. In early 1996, **Russia** introduced such reference prices for sugar, certain fruits, and meat, although it is still unclear whether these prices are actually being used.

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U.S. Agricultural Exports Projected To Grow in Fiscal 1996, HVPs Continue To Dominate

U.S. exports to the FSU region are expected to grow slightly in the near term, but should remain below the high levels (\$2-3 billion) of the late 1980s. High-value products (HVPs) will continue to dominate total U.S. agricultural sales. While increasingly protectionist policies could affect U.S. food exports in the very near term, it is expected that these measures will be relatively ineffective or reduced over the longer term. U.S. exports of HVPs to the FSU region have grown sharply in the last 2 years, but the U.S. share of the FSU HVP market remains relatively low. U.S. market share could expand in the near term, through increased product promotion and investment in the region. However, over the longer term, the FSU region's HVP imports are expected to level off or fall slightly, as domestic production recovers to satisfy more of demand, given continued progress in market reform. [Sharon S. Sheffield]

Although U.S. agricultural exports to the FSU region are showing signs of growth for the first time in 5 years, U.S. market share of the FSU food market remains relatively low (around 10-15 percent of total **Russian** HVP imports). To a large extent this reflects the sharp drop in FSU grain and oilseed imports, for which the United States was a primary supplier. Secondly, while the share of HVPs in total U.S. exports has grown dramatically over the last 1-2 years, HVP exports by competitor nations (especially the European Union) have increased more rapidly, due to closer proximity, earlier entry into the market, use of export credit and subsidies, and in some cases significant investment in wholesale and retail infrastructure to facilitate HVP sales. U.S. market share could grow over the next 1-3 years, through increased marketing and investment, further development of trade ties, and targeting underdeveloped markets in **Russia** (such as Siberia and the Far East) as well as other FSU countries.

Over the long term, competition for the FSU market is expected to intensify as FSU imports of HVPs are forecast to level off or decrease, and projected grain imports remain minimal. This projection is based on the assumption that the FSU's domestic agriculture and food sector will stabilize and begin to recover, as well as become more competitive with imported goods, through increased efficiency, technology transfer and investment, and probably some degree of protectionism. Adherence to and progress in economic reform will play a large role in the rate of agriculture's recovery. At the same time, exporters' ability to use subsidies and other programs to facilitate sales may be reduced by WTO commitments.

U.S. Ag Exports to FSU, Russia Forecast Up in Fiscal 1996

At the end of May, USDA projected U.S. fiscal (October-September) 1996 agricultural exports to the FSU region at \$1.6 billion, up 40 percent from fiscal 1995 (table 7). Exports to **Russia**, the primary FSU importer, are forecast at \$1.3 billion. U.S. food aid programming is not expected to increase in fiscal 1996. The primary factors driving the growth in U.S. exports to **Russia** are continued real appreciation of the ruble against the U.S. dollar, a slight increase in aggregate

food consumption, and little chance for recovery of the domestic sector to meet growth in demand. The recent introduction of more protectionist policies may temporarily slow U.S. sales, but should not offset the factors listed above (see box).

In the near term, **Russia** should continue to be an important market for U.S. agricultural products, especially HVPs. For the second year in a row, Russia in 1995 was the top importer of U.S. poultry meat, and became the second largest export market for U.S. pork. Other export items that have shown significant growth include other meats (including processed meat products), fresh and processed fruits and vegetables, fruit juices, wine and beer, and pet food. Last year the FSU region as a whole was the fifth largest regional market for these consumer-oriented products, while Russia alone ranked seventh. To illustrate the dramatic change in the composition of U.S. exports, in 1990-91 the FSU region was the fourth largest market for U.S. bulk commodities, while in 1995 it fell to thirteenth place. In addition, agriculture's share of total U.S. exports to the FSU region should remain well below the high levels (up to 80 percent) of the 1980s, although in 1995 it increased slightly from 1994, largely due to higher HVP sales (fig. 1).

Fiscal 1996 food aid programming to the FSU region is expected to remain near fiscal 1995 levels (around \$300 million), and food aid's share in total exports should continue to fall as commercial sales increase. As of April, \$75 million in PL 480 Title I credits (includes financing for transportation) for **Armenia, Belarus, Lithuania, Moldova, Turkmenistan, and Ukraine**, and \$41 million in Food for Progress grants (does not include transportation) for **Georgia, Kyrgyzstan, and Tajikistan** had been announced. In addition, some FSU countries have received allocations under the GSM-102 credit guarantee program. As of April, GSM-102 credit guarantee packages had been extended for use by private traders in **Russia** (\$50 million), **Estonia** (\$6 million), and **Lithuania** (\$1 million). A \$10 million GSM-102 package for cotton and feed grains purchases by the **Lithuanian** government was also announced.

Table 7—U.S. agricultural exports to FSU region and Russia, fiscal 1993–96

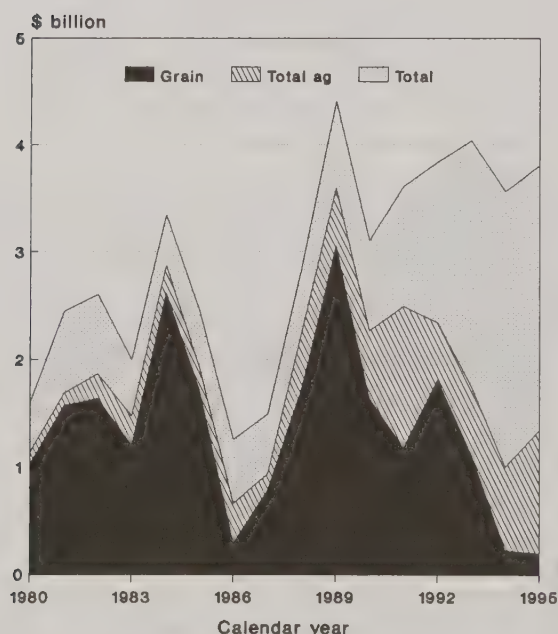
Commodity	FSU				Russia			
	1993	1994	1995	1996 ¹	1993	1994	1995	1996 ¹
<i>\$ million</i>								
Wheat	566	257	117	145	275	92	62	28
Corn	493	275	13	4	336	242	1	4
Soybeans	10	5	25	16	..
Soybean meal	111	171	39	34	82	130	3	..
Pork	1	29	63	27	0.8	28	63	27
Poultry meat	27	282	533	486	27	258	504	430
Dairy products	120	129	65	21	83	93	42	9
Fruits, nuts, veg.	38	69	61	41	26	55	50	33
Sugar & trop. prods.	46	107	36	13	44	104	3	11
Other	149	162	208	145	91	102	168	106
Total	1,561	1,486	1,158	916	965	1,104	911	648
<i>1,000 tons</i>								
Wheat	4,529	2,183	712	694	2,196	762	391	141
Corn	4,965	2,640	115	27	3,380	2,337	9	27
Soybeans	46	19	107	65	..
Soybean meal	541	810	206	157	384	612	15	..
Pork	0.3	18	42	17	0.3	18	42	17
Poultry meat	221	336	662	535	43	315	625	481
Dairy products	83	95	34	35	49	76	24	5
Sugar & trop. prods.	20	53	27	5	20	52	25	5

.. = Negligible or none.

¹ October–March 1995/96.

Source: USDA/ERS.

Figure 1
U.S. Exports to the FSU Region



Sources: USDA; U.S. Dept. of Commerce.

While U.S. HVP Exports to Russia Grow, Market Share Remains Low

The breakup of the USSR and the region's transition towards a market economy have had a profound effect on extra-FSU agricultural trade. These changes have been most pronounced in **Russia**, the USSR's largest successor state. Since 1992, Russian grain imports have fallen more than 95 percent (in volume terms) while HVP purchases have grown significantly (table 8). This trend is also becoming more evident in the agricultural imports of other FSU countries.

While U.S. exports of HVPs to the FSU region have sharply increased, they have not offset the large drop in bulk exports. And even though the U.S. market share of **Russia's** HVP market (the largest HVP market in the region) has grown, it is still relatively low, estimated at around 10-15 percent in 1995 (table 9). If Russia's trade with other CIS countries is included, the U.S. share falls to less than 10 percent. The primary extra-FSU competitors to the United States are the countries of the European Union (EU), in particular Germany, Denmark, the Netherlands, Italy, and France. The EU's combined market share (not including Russian-CIS trade) in 1994 is estimated at 30-40 percent, and likely remained stable in 1995. Other major competitors include Turkey, Israel, China, and several Eastern European countries (Poland, Hungary, Bulgaria).

Several factors are behind the lower U.S. share of **Russian** HVP imports relative to the EU. First, the United States has traditionally been a grain exporter to the FSU region, while HVPs have always been an important component of EU exports. Second, EU companies were among the first to invest in Russia's wholesale and retail infrastructure and develop joint ventures with Russian processors and retailers, all of which have played an important role in promoting EU HVP exports. Another factor is the EU's closer proximity to Russia's urban centers (Moscow, St. Petersburg), the destination of most HVP imports, and its ability to transport products in smaller shipments, which Russian importers often prefer. The main reasons for this are liquidity constraints and limited storage facilities and warehouses.

Fourth, EU members have used sizable export subsidies to facilitate HVP sales. In general, these subsidies have been available for EU members' exports of sugar, some dairy products, fruits and vegetables, beef, poultry, pork, eggs, and

certain dairy-, grain-, and sugar-based products. While the exact amount of subsidized EU exports to the FSU region is not known, various reports indicate that FSU imports of meat, sugar, and other HVPs from the EU have been eligible for relatively large subsidies. While the FSU region is eligible for the U.S. Export Enhancement Program (EEP) and other related export promotion programs, most of the allocations used under this program have been for bulk commodities such as wheat and barley. The only sizable use of EEP to facilitate HVP exports to the FSU region was a one-time allocation for pork. In addition, small amounts of wheat flour and dairy products have been sold to FSU countries under U.S. export promotion programs.

Given the sharp increase in U.S. HVP sales with minimal promotion so far, the potential for growth in the U.S. market share is strong. If U.S. traders and agribusinesses more aggressively target **Russia** and the other FSU countries with product promotion and investment, U.S. HVP exports could account for a larger share of the region's food purchases. Food deficit regions such as the Russian Far East, with its proximity to Pacific coast ports, could provide new markets for U.S. HVPs. Moreover, lower EU intervention stocks and implementation of WTO commitments to lower export subsidies (which also apply to the United States and other exporters) will reduce EU countries' ability to subsidize HVP exports to the FSU region.

Over the next 5-10 years, competition for the FSU HVP market will likely intensify, as HVP imports are expected to

Table 8—Russian agricultural imports from extra-FSU sources, 1991–95¹

Commodity	1991	1992	1993	1994	1995
<i>1,000 tons</i>					
Wheat	10,689	17,593	5,699	1,181	383
Barley	2,882	3,967	615	15	14
Corn	5,457	5,490	4,391	864	239
Rice	322	7	na	18	na
Wheat flour	556	944	54	13	246
Vegetable oil	201	463	93	127	158
Sugar, total	3,269	3,691	3,109	1,462	1,543
Coffee	45	35	13	26	26
Cocoa beans	17	24	22	58	56
Tea	143	47	55	85	na
Meat ²	517	291	85	392	506
Poultry meat ²	89	46	74	496	822
Butter	153	25	70	103	169
Dry milk	77	49	15	33	45
Citrus	266	43	172	609	455
Apples	156	79	81	261	na
Bananas	8	2	19	379	na
<i>\$ billion</i>					
Total ag imports ³	12.4	9.6	6.0	8.6	10.0 ⁴
<i>Percent</i>					
Ag share of total imports (value) ³	28	26	22	30	30 ⁴

na=Not available.

¹ Excludes imports from the Baltic countries after 1992. Data for 1994–95 are from the Customs Committee. ² Fresh–frozen.

³ 1992–94 are from *Sel'skoe khoziaistvo Rossii*, 1995.

⁴ Estimate, from Customs Committee data.

Sources: Goskomstat Rossii; Statkom SNG; Interfax; Customs Committee of Russia.

Table 9—U.S. HVP Exports to Russia, 1995

Product	Value	Estimated U.S. Market Share ¹
	<i>\$ mil.</i>	<i>Percent</i>
Meat and meat products	713.4	47
of which:		
Beef	8.7	3
Pork	67.3	15
Poultry	571.8	82
Dairy and eggs	30.9	5
Fruits, nuts, vegetables ²	25.4	2
Milled grain products	2.5	3
Oils and fats	12.2	2
Processed meat	72.9	13
Sugar and confectionary	9.3	1
Cocoa and products	7.7	1
Beverages ³	13.8	3
Other food products	36.3	6
Total HVP	953.4	12
Total Agriculture	1,045.0	12

¹ Percent of total Russian imports from extra-CIS sources.

² Includes fresh, frozen, processed, and juices.

³ Alcoholic and non-alcoholic, does not include distilled alcohol (vodka and spirits).

Sources: USDA/ERS, Customs Committee of Russia.

level off or possibly decline for certain products. The primary assumption behind this forecast is stabilization and slow recovery of the domestic FSU agriculture and food sector, as it becomes more competitive by reducing costs and responding to consumer preferences. The speed at which internal market reforms motivate producers to increase productivity and reduce costs will largely determine how soon the FSU domestic sector becomes competitive. Foreign investment, transfer of technology and know-how, and some degree of protectionism will also play important roles in the rate of the domestic sector's recovery. The **Baltic** countries, **Russia**, and possibly **Ukraine** and **Kazakhstan** are expected to experience the most rapid recoveries, although certain smaller FSU countries with sizable agricultural sectors (such as **Kyrgyzstan**, **Moldova**, **Armenia**) that have made significant progress in economic reform could also see earlier stabilization.

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Rising Protectionism in Russia Could Affect U.S. Exports in Near Term

In early 1996, **Russia** introduced significantly more protectionist measures on certain food imports, in particular, poultry. At the end of January, Prime Minister Chernomyrdin issued a decree that increased the poultry import tariff from 25 to 30 percent, and was to establish a minimum tariff rate of no less than 0.35 ECU per kilogram (around 45 cents per kilogram). At the same time, a minimum import value for customs valuation was established for poultry, pork, beef, white sugar, bananas, oranges, and apples, all of which Russia imports in large quantities. While Russian officials have stated that the measures are intended to prevent undervaluation of imports for customs duty payment and generate revenue to support farmers, it is more likely the measures were introduced to increase the price of imported goods and protect domestic producers.

For example, the price established in February for calculating duty on poultry imports was \$1.80 per kilogram, while the average U.S. export price of poultry (including transportation) ranges between \$1.20 and \$1.40 per kilogram. The average cost of producing 1 kilogram (weight gain) of poultry in Russia in 1995 is estimated at \$1.20 per kilogram (not including processing and other downstream costs), making it generally uncompetitive with U.S. prices. However, the combined effect of the higher tariff and the minimum import price, if used for customs valuation, would result in as much as a 50-percent increase in the landed price of U.S. poultry.

The establishment of a price for customs valuation is inconsistent with World Trade Organization (WTO) rules. U.S. and Russian officials met in April to discuss these customs measures, and in early May negotiations were continuing. According to Russian government press sources, Prime Minister Chernomyrdin signed a decree lowering the minimum import tariff to 0.30 ECUs per kilogram, while an official from Russia's Customs Committee indicated that the minimum import price of \$1.80 would not be used. However, at the same time, per unit minimum tariff rates were introduced for a number of

agricultural products, including beef, pork, butter, certain fruits, white sugar, juices, and pet foods.

In addition to these measures, in March U.S. poultry exporters faced a possible ban of their products, as Russian veterinary officials threatened to invalidate existing, and cease issuing new, import permits for U.S. poultry unless their concerns were addressed. The reasons cited for the suspension of import permits were verification of product wholesomeness and animal disease control. Although these issues were resolved in late March, this incident may signal a new reliance on sanitary and phytosanitary measures as a pretext to stem the flow of food imports.

While these new measures indicate a markedly more protectionist position toward food imports, there are reasons to believe that their effectiveness may be limited, as have been previous attempts to reduce imports. Russia's protectionist policies to date have been relatively ineffective because a significant portion of imports enter the country undetected by customs (as transshipments through other FSU countries) or is officially (or unofficially) exempt from tariffs. However, new border measures may be more stringently implemented and enforced than previous ones, which could make imports less competitive. The extent to which Russia takes a significantly more protectionist stance could be determined by the outcome of the June presidential elections.

While increased protectionism plays well with the farm lobby, such a move could risk alienating important urban voters in an election year, by causing food prices to rise, and variety to decline. Although traditionally the agrarian lobby has been politically strong, a poor showing in last year's parliamentary elections may have weakened its power to gain increased farm support. Moreover, the introduction of WTO-inconsistent trade policies could complicate Russia's accession bid, and possibly jeopardize recent IMF and Paris Club (debt rescheduling) agreements. [Sharon S. Sheffield]

As U.S. Meat Exports to Russia Reach Record Highs, Trade Barriers Strengthen

U.S. meat exports to the FSU region have surged in the last 2 years, reaching nearly \$1 billion in 1995, although only partly offsetting the massive decline in grain exports, valued in 1995 at less than \$200 million (compared to \$2-\$3 billion in past years). The primary factors behind the rise in FSU meat imports are unlikely to change significantly in the near term, including high-cost domestic output, competitively priced imports facilitated by the real appreciation of the ruble, continued trade liberalization, and consumer preference for imported foods that are higher quality, better packaged and easier to prepare. The biggest unknown in predicting future trade volumes is the degree to which FSU countries will further raise import barriers to protect their downsizing and struggling livestock sectors. Additionally, a significant rebound in 1996 FSU grain production, which would lower grain prices and improve animal producers' terms of trade, could bring some temporary recovery in the livestock sector this year, and cut import demand.
[Christian J. Foster]

Sustained Recovery of Livestock Sector Not Likely Until End of Decade

USDA forecasts FSU meat output will continue to decline until around the end of the decade, and then grow about 1-4 percent per year through 2005. The fastest growth is forecast for poultry output, given the animal's short production cycle, the greater ease in raising the sector's productivity through technology transfer, and state support that focuses on the poultry industry. Total meat production is projected to drop as much as 15 percent more before the end of the decade. By 2005 total FSU meat output is forecast to recover to near 1995's 11.5 million tons (carcass weight), but remain far below 1990's 20 million tons.

In most FSU countries, further decreases in consumer demand, continued deterioration in producers' terms of trade, and continued competition from imports account for the projected further contraction of the livestock sector in the near term. Given the overexpansion of animal husbandry during the Soviet period due to massive state support, it was natural for this once-favored sector to have to undergo severe restructuring in response to rising input prices reflecting real costs, and falling demand based on the real purchasing power of consumers.

A significant rebound in 1996 grain output could lessen pressures on some livestock producers this year, resulting in increased grain use for feed and higher animal productivity. Yet, sustained recovery of the sector is unlikely in the near term.

Total FSU meat output was down for the sixth consecutive year in 1995, fueled by tight grain supplies and high prices. Meat output declined just under 40 percent from 1991, the year prior to the beginning of reforms, and about equaled production in 1967 (table 10). Milk and egg output also continued to decline in 1995, down about a quarter and a third, respectively, from 1991. The countries with the largest production declines include **Moldova** and the **Baltics**, with

1995 meat output down by nearly 60 percent from 1991. Output between 1991 and 1995 declined least in **Kyrgyzstan** and **Turkmenistan**, down less than 25 percent, and actually rose in **Uzbekistan**, likely reflecting continued heavy subsidization by the state and the growth in private sector holdings of grazing animals.

The continued decline in meat output has stemmed from falling animal productivity and inventories (table 11). Hog and poultry numbers have been the most affected by economic reforms, with January 1, 1996, inventories down 40 percent and 35 percent, respectively, from 1991. Since January 1989, total 1996 FSU cattle and cow inventories have decreased nearly 30 percent and 12 percent, respectively.

In most cases, declining inventories are the result not only of increased slaughter, but of much reduced breeding by producers. From 1991 to 1995, births per animal in the state sector in **Russia** fell 24 percent for hogs and 8 percent for cattle. Part of the decline is also due to increased mortality rates among animals caused largely by reduced use of costly veterinary medicines. Cattle deaths per herd in **Russia** rose from 3.5 percent in 1991 to almost double that in 1995, and swine deaths increased from 8 percent to over 15 percent.

The sharper declines in the hog and poultry sectors (non-ruminants) relative to cattle (ruminants) are explained by the greater concentration, during Soviet times, of non-ruminants in large complexes dependent on the state for delivery of subsidized mixed feeds. With economic reform, and the subsequent reduction in state support to the livestock sector, inventories in these complexes suffered most as producers had few alternative sources for affordable concentrated feeds. Cattle and cow inventories, on the other hand, were maintained on state and collective farms that were much more commonly engaged in grain production as well. Moreover, as mixed feeds became increasingly costly, cattle breeders could switch to less costly forage crops or pasture grazing.

Table 10—Production of livestock products, all farms, FSU and selected countries

Country/year	Total meat ¹	Milk	Eggs
	--- 1,000 tons ---		Million
FSU—15			
1990	20,022	108,384	81,725
1991	18,478	101,134	79,306
1992	16,029	90,789	70,646
1993	14,334	88,596	64,475
1994 ²	13,123	83,114	58,669
1995 ²	11,368	77,542	53,025
Russian Federation			
1990	10,112	55,715	47,470
1991	9,375	51,886	46,875
1992	8,261	47,236	42,902
1993	7,513	46,524	40,297
1994	6,803	42,176	37,477
1995	5,930	39,306	33,714
Ukraine			
1990	4,358	24,508	16,287
1991	4,029	22,409	15,188
1992	3,401	19,114	13,496
1993	2,815	18,377	11,793
1994	2,677	18,138	10,154
1995	2,316	17,181	9,441
Kazakstan			
1990	1,558	5,642	4,185
1991	1,524	5,555	4,075
1992	1,258	5,265	3,565
1993	1,311	5,577	3,288
1994	1,207	5,296	2,629
1995	876	4,384	1,819
Belarus			
1990	1,181	7,457	3,657
1991	1,065	6,812	3,718
1992	950	5,885	3,502
1993	820	5,584	3,514
1994	743	5,510	3,400
1995	640	5,070	3,410
Baltics			
1990	1,058	6,258	2,639
1991	898	5,749	2,555
1992	769	4,819	1,931
1993	553	4,032	1,345
1994 ²	429	3,668	1,433
1995 ²	388	3,499	1,523
Uzbekistan			
1990	484	3,034	2,453
1991	492	3,331	2,347
1992	469	3,679	1,898
1993	517	3,764	1,788
1994	509	3,733	1,574
1995	519	3,686	1,243

¹ Carcass weight; beef, pork, poultry, etc., including fat.

² Preliminary.

Sources: Statkom SNG; Goskomstat Rossii; USDA.

Table 11—January 1 livestock inventories and animal units, all farms, FSU and major countries

Country/ year	Cattle		Hogs	Sheep	Horses ¹	Poultry ¹	Total animal units ²
	Total	Cows		& goats			
FSU							
	Million head						
1990	118.3	41.8	79.1	145.4	5.9	1,215	156.2
1991	115.7	41.5	75.6	140.5	5.9	1,200	152.7
1992	112.1	41.7	69.4	136.1	5.9	1,183	147.9
1993	106.8	41.2	60.6	130.5	5.9	1,009	137.9
1994	101.0	40.8	55.0	119.8	6.0	971	130.8
1995 ³	91.2	38.6	49.2	97.1	6.0	847	117.6
1996 ³	83.5	36.7	45.4	82.2	6.0	776	108.1
Russian Federation							
	Million head						
1990	58.8	20.8	40.0	61.3	2.6	654	77.4
1991	57.0	20.6	38.3	58.2	2.6	660	75.6
1992	54.7	20.6	35.4	55.3	2.6	652	72.9
1993	52.2	20.2	31.5	51.4	2.6	568	68.0
1994	48.9	19.8	28.6	43.7	2.5	565	64.0
1995	43.3	18.4	24.9	34.5	2.4	508	56.8
1996	39.7	17.4	22.7	28.3	2.4	439	51.6
Ukraine							
	1,000 head						
1990	25,195	8,528	19,947	9,003	754	255,100	31,269
1991	24,623	8,378	19,427	8,419	738	246,104	30,455
1992	23,728	8,263	17,839	7,829	710	243,121	29,249
1993	22,457	8,057	16,175	7,237	700	214,582	27,265
1994	21,607	8,078	15,298	6,863	700	190,481	25,981
1995	19,624	7,818	13,946	5,575	700	164,864	23,640
1996	17,609	7,529	13,118	4,080	700	153,707	21,695
Kazakstan							
	1,000 head						
1990	9,818	3,327	3,264	36,223	1,619	59,300	14,628
1991	9,756	3,367	3,224	35,700	1,626	59,900	14,562
1992	9,592	3,490	2,976	34,556	1,666	59,932	14,364
1993	9,576	3,623	2,591	34,420	1,704	53,465	14,187
1994	9,347	3,687	2,445	34,208	1,777	52,591	14,066
1995	8,073	3,397	1,982	25,132	1,800	38,239	11,875
1996	6,800	2,900	1,400	19,600	1,800	37,000	10,160
Belarus							
	1,000 head						
1990	7,166	2,439	5,204	500	219	49,768	8,101
1991	6,975	2,362	5,051	444	217	50,600	7,919
1992	6,577	2,314	4,700	424	215	51,700	7,573
1993	6,221	2,220	4,308	381	210	48,900	7,139
1994	5,851	2,199	4,181	323	205	47,300	6,828
1995	5,403	2,120	4,005	230	205	46,000	6,439
1996	5,100	2,080	3,980	180	200	45,800	6,220

¹ Horses and poultry estimated 1994–96.

² In terms of cows. Conversion ratio = cattle (other than cows) 0.6; hogs 0.3; sheep and goats 0.1; horses 1.0; poultry 0.02. ³ Estimate.

Sources: Statkom SNG; Goskomstat Rossii; USDA.

Consumers Adjust Consumption to Changes in Relative Prices

Additional estimated declines in real per capita incomes over the next 2-3 years in most FSU countries will continue to dampen consumer demand for livestock products, thereby keeping downward pressure on meat production. Between 1991 and 1995 average calculated real incomes in most FSU countries fell more than a third, with average per capita meat consumption reportedly down more than a quarter (table 12). In some countries, such as in the **Baltics** and the **Caucasus**, per capita consumption of livestock products began to show signs of stabilization last year.

Market reforms have also caused shifts in relative prices among meats, with **Russian** consumers last year demanding more poultry meat relative to beef and pork, given its lower price. In 1995, average annual Russian retail poultry prices per kilogram were 23 percent lower than pork and 7 percent less than beef. This is in sharp contrast to prices in pre-reform Russia, when poultry was the most expensive meat, 40 percent more per kilogram than both pork and beef.

One of the most dramatic declines in per capita food consumption in most FSU countries last year was for milk, which experienced the sharpest price increase among livestock products. In nearly all FSU countries, not only did the price of milk rise faster than that of meat compared to 1994, it also surpassed the average increase for all food items. In **Belarus**, for example, while the average rise in all food items was 213 percent, milk product prices rose 366 percent, while meat prices increased 185 percent.

Animal Productivity Continues Decline as Producers Switch to Cheaper Feeds

In all FSU countries, falling animal productivity (unit of output per animal) accounts for much of the decline in meat production (table 13). Declining productivity has mainly been due to changes in feed content and practices in response to sharply rising costs for concentrated feeds such as grain.

Whereas previously animals were fed highly subsidized and state supplied mixed feeds (made up of grain, oilmeal, and other high-protein additives), producers are now responding to sharp increases in input prices by switching to less costly forage crops (hay, haylage, green chop, silage), and grazing their animals when possible. This shift away from expensive concentrated feeds towards more forage crops is particularly evident in **Russia**, where perennial grass area has shot up not only in absolute terms but also as a share of total sown area. Compared to 1985 Soviet **Russia**, perennial grass area in 1994 had increased by 17 percent, and its share in total sown area had gone from 13.8 to 18.3 percent.

However, as producers have substituted higher-protein grains with less costly and lower-protein coarse and succulent feeds, animal productivity has consistently fallen. One indicator of the changes in animal productivity is average milk output per cow (state sector), which has fallen sharply in all FSU countries. Of the major dairy producing countries, **Moldova** recorded the largest decline in milk output per animal since 1991 (down more than 40 percent), while in **Ukraine**, **Kazakhstan**, and **Belarus** the drop was about 30 percent, and in **Russia**, less than 25 percent.

Table 12—Annual per capita consumption of selected food products, FSU countries

Country	Meat and meat products ¹						Milk and dairy products ²						Eggs					
	1990	1991	1992	1993	1994	1995 ³	1990	1991	1992	1993	1994	1995 ³	1990	1991	1992	1993	1994	1995 ³
	--- Kilograms/capita ---						--- Kilograms/capita ---						--- Number ---					
Russian Fed.	75	69	60	59	57	53	386	347	281	294	278	240	297	288	263	250	236	215
Ukraine	68	66	53	46	44	39	373	346	285	264	256	245	272	256	227	206	183	172
Belarus	75	73	72	70	69	62	425	415	396	377	380	346	323	320	305	303	308	306
Moldova	58	56	46	35	31	27	303	259	198	174	161	150	203	195	166	130	100	110
Kazakstan	71	71	61	59	56	43	307	303	269	260	245	208	222	206	175	170	140	104
Uzbekistan	32	30	27	27	33	33	210	196	175	177	173	173	120	107	80	74	63	50
Kyrgyzstan	54	48	46	44	43	40	266	249	206	193	183	185	154	144	128	81	46	35
Tajikistan	26	21	18	14	15	14	161	124	127	136	134	130	111	82	34	23	12	10
Turkmenistan	43	38	38	33	30	24	212	176	185	196	183	173	101	82	75	75	64	60
Armenia	44	31	20	20	22	22	446	392	122	99	150	150	163	143	65	45	57	57
Azerbaijan	32	26	20	17	14	14	292	217	204	170	143	142	143	116	103	70	78	75
Georgia	42	31	21	19	17	20	289	135	87	80	80	86	140	139	55	46	50	53
Lithuania	60	66	65	56	48	na	480	315	334	319	275	na	305	293	207	143	155	na
Latvia	77	69	54	50	48	50	454	420	370	355	345	356	259	232	213	210	206	218
Estonia	78	60	59	51	50	52	502	409	351	272	274	291	290	261	224	210	218	224

na = Not available. ¹ Includes offals and edible fat. ² Includes milk equivalent of butter. ³ Preliminary.
Sources: Statkom SNG; Goskomstat Rossii.

Feeding efficiencies (unit of output per unit of feed) have also reflected the change in feed rations. In **Russia**, for example, the number of units of feed per unit of cattle weight gain rose nearly 30 percent from 1991 to 1995, and per unit of hog weight gain, by a third.

As the quality of forage crops improves, in terms of moisture content and nutrient value, and as higher-protein feeds become more affordable and are incorporated back into rations, animal

productivity and feeding efficiencies should rise. The gap in productivity between privately held and state held inventories points to at least minimal room for productivity gains.

Despite Some Lessening of the Price-Cost Squeeze, Most Producers Remain Unprofitable

Although the producer price-cost squeeze lessened in 1995 in a number of FSU countries, as input prices rose slower

Table 13—Livestock productivity and feed conversion indicators, Russia

	1980	1985	1990	1991	1992	1993	1994	1995
Eggs per layer, state sector (number)	210	224	236	231	224	222	214	212
Milk per cow (kg)	2,169	2,334	2,731	2,567	2,332	2,328	2,195	na
state sector only	2,122	2,327	2,781	2,569	2,247	2,252	2,030	2,007
Annual weight gain per cattle (kg)	99	105	121	112	102	100	98	na
state sector only	89	97	108	97	83	82	80	na
Annual weight gain per swine (kg)	97	101	118	111	102	103	101	na
state sector only	73	80	84	73	61	61	na	na
Weight at time of sale to the state, cattle (kg), by all farms	352	355	385	374	361	350	340	na
Weight at time of sale to the state, swine (kg), by all farms	102	107	118	117	111	112	109	na
Feed use per centner ¹ of wgt. gain, cattle, state sector, centner of feed units	12.9	13.1	13.5	14.8	15.7	16.6	18.9	na
Feed use per centner ¹ of wgt. gain, swine, state sector, centner of feed units	9	8.5	8.3	9.4	10.3	11.0	12.5	na
Feed use per centner ¹ of milk produced, state sector, centner of feed units	1.51	1.57	1.44	1.52	1.58	1.62	1.74	na
Births per 100 cows, state sector, number of calves	77	79	82	79	78	75	72	73
Births per 100 swine, state sector, number of piglets	1,194	1,270	1,370	1,271	1,158	1,096	995	962
Births per 100 sheep/goats, state sector, number of lambs	72	74	82	76	71	66	60	56
Mortality rates, as percent of herd, cattle, state sector	3.9	3.4	3.0	3.5	4.2	4.9	6.1	na
Mortality rates, as percent of herd, swine, state sector	7.3	6.8	6.9	8.3	10.7	12	15.1	na
Mortality rates, as percent of herd, sheep/goat, state sector	10.1	9.3	7.9	9.4	11.2	12.0	13.7	na

na = Not available.

¹ Centner equals 100 kg.

Sources: Goskomstat Rossii; Russian Ministry of Agriculture and Food.

than output prices, the majority of livestock producers remained unprofitable (tables 14, 15). However, continued unprofitability has not led to farm closures, as the state continues to protect producers through postponement of credit obligations and debt forgiveness.

Even with the vast majority of state agricultural subsidies in 1995 going to the livestock sector, most **Russian** producers remained unprofitable. For example, although Russian poultry producers received the most subsidies in the livestock sector in 1995, in terms of subsidies per ton of product sold to the state, production was unprofitable. Beef producers remained the least subsidized (per kilogram per output) of Russia's major meat producers in 1995, receiving less than half the support enjoyed by pork and poultry producers. On the other hand, the largest amount of total subsidies to the livestock sector went to milk producers, turning them from the most unprofitable livestock product producers in 1994 to the second most profitable in 1995.

Over the medium to long term, a number of factors should combine to make livestock production profitable. An important factor on the demand side will be the expected recovery in real incomes and therefore increased consumption of meat. On the supply side, stabilization of the terms-of-trade should contribute to an improved financial situation for producers. Moreover, in all FSU countries, large potential exists for raising the productivity of a number of inputs--feed, energy, labor. (In **Russia**, of total costs incurred by livestock producers in 1994, feeds expenditures accounted for 67 percent, energy expenses 15 percent, and labor and other service costs for 9 percent.) Expected productivity gains should also contribute to profitability.

Table 14--Input and output price changes, livestock sector, Russia

	1991	1992	1993	1994	1995 ¹
<i>Percent change from previous year</i>					
Input prices					
All types of ag inputs	93	1,523	969	321	215
Mixed feed	113	1,690	760	271	139
Output prices					
All farm products	63	845	712	204	266
All livestock products	55	520	942	220	300
Beef cattle	48	380	1,069	164	258
Hogs	51	624	1,245	201	260
Poultry	69	618	1,342	210	214
Milk	36	594	756	234	408
Eggs	16	735	973	316	249

¹ Jan. - Sep. 1995.
Source: Goskomstat Rossii.

Private Small-Scale Producers Account for Growing Share of Meat Output

The share of animals held on private household plots and family farms continued to grow in 1995 as former state and collective farms continued downsizing inventories. (The vast majority of total private inventories are on private household plots, 1- to 3-hectare parcels of land generally adjacent to state/collective farms that employ the plot holders. Plot holders generally maintain no more than 10 head of cattle or swine per household. Private family farms, on the other hand, account for under 5 percent of total private animal numbers.) As of January 1995, the private sector reportedly maintained 34 percent of total CIS cattle inventories (compared to 20 percent in 1990), 46 percent of cows (compared to 31 percent), 37 percent of hogs (19 percent) and 45 percent of sheep/goats (24 percent). (Animals held by small-scale private producers grew rapidly over the last few years. However, given the difficulty in the region in counting these animals, there is a greater margin for error on private sector data.) Much of the past growth in household plot inventories can be attributed to the fact that production was lucrative given higher productivity and the ability to siphon off resources from host farms. In addition, many of the livestock producers were engaged in subsistence, rather than commercial, operations.

In terms of output, the private sector in 1995 accounted for 53 of total CIS meat output and 50 percent of its milk production. In **Russia**, the private sector produced 50-60 percent of total meat output (table 16). In **Kyrgyzstan**, and **Azerbaijan**, over 75 percent of total output came from private sources, while in **Armenia** and **Georgia** the corresponding figure was over 95 percent.

If the trends in **Russia** are an indicator, further significant expansion of private sector inventories in absolute terms is not likely in the near term, even though the share of total numbers may grow. As of January 1, 1996, animal inventories were down from a year earlier on both former state/collective farms and on private household plots. Only on family farms, which hold a mere 1-2 percent of all animals in **Russia**, did inventories continue to grow, and then by a small 1-3 percent.

For **Russian** household plots, the degree to which producers can expand herds is primarily limited by physical constraints. For private farms, the main obstacles have been low profitability and marketing difficulties. In 1995, for example, sales of calves and chicks from state farms to private households fell 16 and 18 percent, respectively. Although inventories on household plots have likely reached their ceiling, growth of private farm herds should pick up over the medium term as productivity rises and up- and downstream market infrastructure--communications, market information, and roads--develops.

Meat Increasingly Marketed Directly by Producers

A major change resulting from market reforms has been the growing tendency among producers to market output directly to consumers rather than to meat processors. In **Russia**, for example, nearly 40 percent of meat marketed in 1995 by former state and collective farms was sold to buyers other than processing enterprises, more than double that in 1991.

Sales of milk by producers to former state processors fell from nearly 100 percent in 1991 to about 75 percent in 1995. Further illustrating this shift is the fact that while 1995 output of former state meat processing enterprises plummeted 57 percent from 1991, overall meat output in Russia was down 37 percent.

Repeated delays in payment by meat processors to producers is one factor that has caused farms to seek alternative marketing channels. Some of the decline in sales to processing enterprises stems from increased barter trade to acquire inputs, and greater use of payment-in-kind to farm employees, both often necessitated due to cash shortages.

Another likely reason some producers have reduced sales to processing enterprises is that they can receive higher prices by marketing directly to consumers at nearby farm markets.

Given market forces, many meat processors, who must incur substantial transportation, handling and storage costs, are constrained in the prices they can offer small scale producers. While producers like to complain about the apparent the monopoly power of processors to dictate prices, it is more likely that processors are forced to offer certain prices in order to remain profitable.

The increasing costs that processors must bear in **Russia** appears to be reflected in changes in farm value-retail cost ratios (the ratio of the farmgate price to the retail price). By the end of 1995, the farm value-retail cost ratio for milk had fallen to about 33 percent from over 80 percent in 1991. For Russian meat products the 1995 ratio had dropped to about 50 percent from about 90 percent in 1991. In the United States the farm value-retail cost ratio at the end of 1995 was

Table 15--Livestock sector, financial indicators, former state enterprises, Russia

Item	1985	1990	1991	1992	1993	1994	1995
Cost of production per unit ¹							
	<i>Rubles</i>						
Per centner ² of cattle wgt. gain	290	344	858	5,291	49,592	259,991	623,000
Per centner ² of hog wgt. gain	223	261	488	5,909	55,321	263,816	721,000
Per centner ² of poultry wgt. gain	162	163	331	4,868	47,104	191,929	551,000
Per 1,000 eggs	63	70	130	1,947	17,787	75,352	214,000
Per centner ² of milk	39	42	71	668	5,967	28,349	78,100
Farmgate price per centner² (w/subsidies) ³							
Cattle	na	372	522	4,000	34,173	91,000	298,000
Hogs	na	311	455	5,109	52,842	156,000	462,000
Poultry	na	253	451	4,800	53,336	168,000	500,000
Eggs (1,000)	na	108	239	2,648	25,110	97,000	272,000
Milk	na	65	84	892	6,482	20,800	87,000
Farmgate price per centner² (w/out subs.)							
Cattle	na	na	na	2,412	28,000	71,000	273,000
Hogs	na	na	na	3,318	44,000	130,000	413,000
Poultry	na	na	na	3,007	47,000	140,000	442,000
Eggs (1,000)	na	na	na	1,953	20,908	na	253,000
Milk	na	na	na	567	4,821	16,300	73,300
Profitability (w/subsidies) ⁴							
	<i>Percent</i>						
Cattle production	4.4	21.9	23.2	57.1	63.6	-16	-33
Swine production	4.1	23.1	14.5	36.8	62.0	2	-13
Poultry production	20.5	28.7	21.7	7.4	14.0	-7	-10
Eggs	59.2	51.1	74.1	29.5	37.1	25	23
Milk	20.9	56.2	16.7	30.8	7.8	-26	3
Inflation rate							
Ruble/dollar exchange rate	--	5	93	2,564	840	215	131
	--	19.3	59.1	222.7	933.8	2,203	4,563

na = Not available. -- = Not applicable.

¹ The prime cost of production (sebestoimost') per centner² of weight gain in the state sector. ² Centner equals 100 kg.

³ Vyruchka. Data include state subsidies. ⁴ The Russian term for profitability (rentabel'nost') equals sales revenue from marketed output plus state subsidies minus prime costs, divided by the latter.

Sources: Goskomstat Rossii; Russian Ministry of Agriculture and Food.

about 36 percent for dairy products and 35 percent for meat products.

Russia Becomes U.S.'s Largest Market for Poultry Meat, and No. 2 Destination for Pork

Russian imports of meat and meat products continued to surge in 1995, reaching nearly 2 million tons from all sources,

including over 900,000 tons of poultry meat (table 17). Despite the imposition of tariffs and declining subsidies by major meat exporters, USDA estimates that meat imports will remain around current levels in the near to medium term as high cost domestic producers remain unable to compete with more affordable imports.

In the longer term, total **Russian** meat production should begin to recover, driven largely by rising domestic demand caused by growing real incomes and modest increases in productivity. USDA estimates that the poultry sector could be the quickest to recover, thereby cutting into import demand for poultry. However, the overall volume of meat imports may not significantly drop, as the fall in poultry imports might be offset by continued slow growth in combined pork and beef purchases.

The primary factors behind the rise in import demand in **Russia**, which accounts for around 80 percent of total FSU meat imports, are unlikely to change significantly in the near term. The factors underlying the rise in imports include: 1) competitively priced imports, especially of poultry, which has become a relatively low-cost source of protein; 2) the real appreciation of the ruble, which has lowered import prices relative to domestic prices; 3) consumer preference for higher quality, better packaged and easier-to-prepare foods; 4) growing income inequality, which created a small but wealthy class of consumers that demand finer meat cuts; and 5) trade liberalization, which resulted in the growth of private importers more responsive to consumer demand.

Table 16—Animal product output by type of farm, Russia

	1990	1991	1992	1993	1994	1995
	<i>Percent</i>					
Meat, total (carcass wgt.)						
All farms	100	100	100	100	100	100
Former state farms	75	69	64	59	55	50
Private farms	0	0	1	1	2	2
Household plots	25	30	35	39	43	48
Milk						
All farms	100	100	100	100	100	100
Former state farms	76	74	68	64	60	57
Private farms	0	0	1	1	1	1
Household plots	24	26	31	35	39	42

Source: Goskomstat Rossii.

Table 17—Net imports of meat and meat products, FSU countries ¹

Country	1992			1993			1994			1995 ²		
	Intra-FSU	Extra-FSU	Total net import	Intra-FSU	Extra-FSU	Total net import	Intra-FSU ³	Extra-FSU	Total net import	Intra-FSU ³	Extra-FSU	Total net import
<i>Tons</i>												
Russian Fed.	315,000	490,100	805,100	183,500	525,400	708,900	325,200	1,165,300	1,490,500	305,800	1,532,300	1,838,100
Ukraine	(186,200)	912	(185,288)	(98,624)	5,230	(93,394)	(155,561)	7,000	(148,561)	(184,000)	19,000	(165,000)
Belarus	(93,100)	291	(92,809)	(64,562)	1,621	(62,941)	(85,043)	902	(84,141)	(78,600)	600	(78,000)
Moldova	(27,600)	1,216	(26,384)	(22,561)	339	(22,222)	(27,611)	(8,447)	(36,058)	(25,370)	(10,062)	(35,432)
Kazakhstan	(55,600)	10,400	(45,200)	(61,302)	3,690	(57,612)	(58,100)	12,080	(46,020)	(48,000)	na	(42,400)
Uzbekistan	51,400	29,797	81,197	24,301	17,100	41,401	15,000	44,200	59,200	10,000	28,500	38,500
Kyrgyzstan	(2,800)	(5)	(2,805)	(5,896)	(287)	(6,183)	(2,620)	(121)	(2,741)	(635)	(15,004)	(15,639)
Tajikistan	3,400	0	3,400	4,612	356	4,968	58	404	462	na	na	na
Turkmenistan	29,500	35,096	64,596	19,778	13,653	33,431	24,965	20,035	45,000	na	na	na
Armenia	5,300	0	5,300	500	237	737	835	533	1,368	na	na	na
Azerbaijan	30,300	10,200	40,500	11,912	3,447	15,359	7,380	7,073	14,453	na	607	na
Georgia	6,600	4,862	11,462	900	618	1,518	1,052	1,263	2,315	na	na	na
Lithuania	(59,860)	(1,651)	(61,511)	(34,677)	2,139	(32,538)	(19,165)	12,978	(6,187)	(8,000)	na	na
Latvia	(59,432)	432	(59,000)	(29,000)	11,158	(17,842)	(7,000)	16,900	9,900	(10,000)	5,087	(4,913)
Estonia	(11,813)	(271)	(12,084)	(7,718)	2,618	(5,100)	(3,500)	10,500	7,000	(7,000)	60,441	53,441
Total FSU	--	581,379	--	--	587,319	--	--	1,290,600	--	--	1,621,468	--

na = Not available. () = Net exports. -- = Not applicable.

¹ On calendar year basis. Includes beef, pork, poultry, other meat, and meat products. ² Preliminary. ³ Estimates, except for Russia. Sources: Goskomstat SSSR; Statkom SNG; Goskomstat Rossii; Customs Committee of Russia; USDA/ERS.

A big unknown in forecasting the trade outlook, however, is how much **Russia** is willing to increase protection of its livestock producers through additional trade barriers. Many Russian officials have remarked that the country's food security is threatened by the fact that imports of meat in 1995 accounted for nearly a quarter of total consumption. In early 1996, Russia increased tariffs on poultry meat yet again, and was considering other measures that would likely curtail imports. Another unknown is the degree to which a possible rebound in grain output in 1996 might cause a temporary recovery in livestock production and thereby curtail import needs.

While U.S. farmers have suffered from the sharp decline in **Russian** imports of grain and oilseeds, they have benefitted greatly from the rise in meat imports. In 1995, Russia was for the second year the largest market for U.S. poultry meat, with purchases of over 730,000 tons valued at over \$600 million, representing 30 percent of total U.S. poultry exports. Russia also became the second largest market for U.S. pork exports, totaling about 47,000 tons at over \$70 million, and the third largest market for variety meat (offal) exports, equal-

ing about 66,000 tons at nearly \$65 million. Russia's pork and offal imports are primarily going to meat processors for use in making sausage products, rather than for retail sale. Many large, urban enterprises in Russia find it less costly and risky to import large consignments of raw meat for processing, than to purchase domestically from a vast quantity of small-scale Russian producers, thereby incurring high transaction costs.

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Changing Consumption, Consumer Sovereignty and Poverty Policies

by Kenneth Gray

In 1994, 2 years after price liberalization, nutritional experts of the World Health Organization (WHO) noted that the declines in average per capita consumption of meat, dairy products, and eggs that were occurring in the richer Slavic countries of the FSU region were alarming only when compared to Soviet consumption norms. These norms, however, were judged political, with little basis in science. They exceeded nutritional recommendations prevalent in Western Europe, and in general were not justified by climatic differences.

Meat, milk, and to a lesser extent egg consumption has continued to fall since 1994, significantly in **Ukraine, Belarus and Kazakstan**, and less so in **Russia**. These countries had the highest consumption in the FSU region and still consume no less meat than they did in the early 1970s (for **Ukraine**, the mid 1960s). Average 1995 milk consumption (butterfat equivalent) resembles that of the 1960s. In the late 1960s and early 1970s, Soviet caloric intake was deemed more than adequate by world standards. By the mid-1970s, the percentage of calories derived from livestock sources appeared to resemble the share for other countries with the USSR's approximate per capita GDP. Yet, state subsidies meant to achieve planned consumption goals continued rising, to a high of 10 percent of GDP in 1989-90.

Fixed retail prices can create shortages even at relatively high levels of consumption, and they did just that before they were changed for the first time in 30 years, and finally liberalized in 1992. In each of the present CIS countries, the share of household income devoted to food purchases was less than 50 percent. This was true except for **Azerbaijan, Georgia, and Armenia**. From 1990 to 1994, food's share increased significantly. In 1994 it was nearly 70 percent both in the **Caucasus and Tajikistan**, which also was experiencing civil war. In **Russia**, the share rose from 36 percent in 1990 to 47 percent in 1994, and 52 percent in 1995.

Russian families' ability to purchase a traditional food basket declined sharply in 1995. This resulted in the adjustments reflected in table 18. In 1995, among families surveyed, expenditures on dairy products (butter fat equivalent) fell almost 20 percent and meat consumption fell 10 percent. However, compared to 1994, consumers purchased just a fraction less bread products and potatoes, slightly more fish, and 12 percent more vegetable oil and margarine (doubtlessly substituting the latter for butter). The relative price of vegetables fell during 1995, and in physical weight their consumption in Russia increased 18 percent, to over 83 kilograms per person.

In late 1995 and early 1996, published alarmist commentary had it that **Russia's** caloric intake had fallen by one third.

However, household expenditure surveys indicate a 5-percent drop in calories purchased, to a daily average of 2,310 calories in 1995. Actual *consumption* may have declined less if less was wasted after purchase. Correctly stratified, household surveys measure actual human consumption more accurately than the statistical balance mechanism designed for the planning system. This method always undercounted waste and may now underreport private production, processing and trade. If prior to reform, as little as 20 percent of what "disappeared" as consumption was really wasted, 1995 vegetable consumption is probably more *and* of better quality than before reform.

However, the nutrition problem as identified by the WHO and others is not only one of the *average* consumption, but also concerns the specific consumption of the poor. In the poorer southern countries of the former USSR, consumption of livestock products was always less than in the Slavic republics, and it has generally declined more. In 1995, per capita meat consumption ranged from only 14 kilos in **Azerbaijan and Tajikistan**, to 20-22 in **Armenia, Georgia and Turkmenistan**, and somewhat over 30 kilos in **Kyrgyzstan, and Uzbekistan**. In these countries (except for Uzbekistan and Kyrgyzstan), official meat consumption is 20-40 percent below that of the 1960s, and milk consumption is officially 20-50 percent less. However, livestock products consumption in the Caucasus has stabilized and improved since 1993. In these regions, as also in the Slavic north, consumption of eggs and poultry meat, more economical sources of protein, is less depressed and is generally stabilizing or rising.

In 1994, **Russian** families earning the designated "minimum" per capita income devoted 58 percent of their expenditures to food, versus only 29 to 32 percent for families with 5 times this minimal income. The share of families with less than this minimum was 18 percent of the total in 1993, but in some economically depressed regions of Russia the figure was 40 percent. High farm and retail subsidies continue in many oblasts, including Ul'ianovsk oblast (Lenin's home), which borrows heavily to maintain food prices at half the levels prevalent in Moscow. Part of the national platform of the reemerging Communist Party is to extend these subsidy and price control programs. Should this happen, it will reverse much of the progress of the reforms: the improvement of quality, elimination of lines and seasonal shortfalls, and the reorientation of consumption, production and trade to choices based upon *consumer sovereignty* and economic rationality.

In the late 1980s, Soviet scholars showed that existing federal meat subsidies were *regressive* (i.e., generally benefited the poor less than high income urban consumers who obtained more meat). Universal cheap food policies should now be even less attractive as movement toward the market has caused

Table 18—Russian per capita consumption

	Plan norm	Food disappearance data				Household budget survey data			
		1990	1994	1995	1995 as a share of 1990	1993	1994	1995	1995 as a share of 1994
		-----Kg per year-----				-----Kg per year-----			
					Percent				Percent
Meat (& subprod.)	78	75	57	55	68	57	58	53	91
Milk (fat equiv.)	472	386	278	240	62	305	305	247	81
Eggs (units)	306	297	236	211	73	236	210	196	93
Grain products	115	119	124	135	113	107	101	101	100
Potatoes	105	106	122	117	110	120	113	112	100
Vegetables	138	89	68	70	79	76	71	83	118
Fruits & berries	93	35	na	na	na	31	30	30	99
Sugar	40	47	31	31	66	29	29	28	96
Vegetable oil	7.3	10.2	6.6	6.2	61	7.4	5.7	6.4	112
Fish	21.5	20.3	10.4	10.7	53	11.4	8.9	9.0	101

na = Not available.
Sources: Goskomstat Rossii; Statkom SNG; Interfax.

income differentials to increase. Modern safety net approaches that target assistance to the poor (e.g., USDA Food Stamp Program, nutrition information) should become more attractive instead.

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Production Rebound Projected To Keep Grain Imports Low

For the third straight year, FSU grain imports in 1996/97 (July/June) are projected to remain historically low. An expected increase in 1996/97 grain output (particularly wheat), forecast weak demand due to continued contraction of the livestock sector, and high international prices are expected to limit FSU grain purchases. Over the next decade, FSU grain consumption will probably recover slowly, because feed use is unlikely to rebound significantly before 2000. In coming years, higher intra-FSU trade resulting from rising production could satisfy much of the increase in FSU grain demand, as yields are boosted through better cultivation techniques and increased input use. Liberalization of FSU grain markets should accelerate during the coming decade if state procurements continue to decline and private grain marketing channels flourish. While further market-oriented reform should boost domestic FSU grain prices toward world levels, deficient physical and institutional infrastructure, along with other market distortions, could persist for many years and impede creation of a more efficient grain sector. [Jay K. Mitchell]

FSU Grain Imports Estimated To Remain Low in 1996/97

In May 1996, USDA projected FSU 1996/97 (July/June) grain imports at 9.6 million tons (including extra- and intra-FSU trade), down 2.6 million from 1995/96's already low levels (table 19). Higher projected production and weak demand are projected to keep imports low. Total grain imports for 1995/96 were estimated at 12 million tons, only about one-fourth of the high levels in the late 1980s. Imports were widely expected to grow strongly, but they rose only 2 million tons from a year earlier, despite production decline of 26 million tons, as consumption declined and stocks were drawn down to low levels. Hard currency constraints, high wheat prices on world markets, and a strong lobby against imports by the agrarian sector also limited grain imports. By early 1996, **Russian** 3rd class wheat prices began to stabilize at the equivalent of around \$175-195 per ton, about 80-90 percent of the U.S. Gulf price #2 hard winter wheat. (However, U.S. #2 hard winter wheat is of a different quality than **Russian** 3rd class food wheat.)

The FSU region is not likely to be a large-scale wheat importer from world markets during the next decade as it was in the late 1980s when annual imports averaged more than 20 million tons. With domestic wheat prices approaching world market levels in many FSU countries, higher production is already being encouraged and could reduce net FSU grain imports to less than 2 million tons by 2005. In contrast, extra-FSU corn imports could expand over the next decade as a modest turnaround in the FSU livestock sector after the year 2000 boosts feed demand. Still, the FSU region is not expected to become a leading corn importer as it was in the 1980s.

Certain countries or regions of the former USSR could remain attractive markets for the United States or other Western grain suppliers. In **Russia**, the Far East will likely import the bulk

of its wheat from the United States, Canada, and Australia, because it currently costs more than twice as much to ship domestic wheat to this remote region of **Russia** than to import North American wheat through Pacific Ocean ports. Even if over the next decade **Russia's** antiquated and inefficient transport system were modernized, the Far East and other regions situated closer to ports than to domestic wheat producers will probably choose to import relatively cheaper Western wheat.

Other traditional FSU wheat importers, such as **Central Asia** and the **Caucasus**, may be partly supplied by FSU wheat producers, but are likely to continue to seek external purchases to satisfy a portion of domestic use. Some level of food aid and export programming may be required in the near term as hard currency resources for such imports will probably remain tight over the next decade. The tight hard currency situation may be eased somewhat by increased foreign exchange earnings from rising foreign investment and by hard currency generated from rising energy and raw materials exports. Given their access to ports and further reintegration of their economies with the West, the Baltic nations (**Estonia, Latvia, and Lithuania**) are likely to satisfy some of their grain import needs on the world market rather than from FSU sources. Major suppliers of corn to FSU countries in coming years may include the United States, owing to quality and price competitiveness, and Eastern Europe, because of close geographic proximity.

U.S. 1996/97 grain exports to the FSU region are not expected to change significantly from 1995/96's low level of under 500,000 tons. (For fiscal 1996, GSM-102 export credit guarantees for use by private traders totaled \$50 million for **Russia**, \$6 million for **Estonia**, and \$1 million for **Lithuania** (in addition, a \$10 million package was made available for ministerial purchases of feed grains and cotton). As of late April 1996, **Russia** had registered \$28.3 million in sales, primarily of wheat or wheat flour.) Wheat dominated U.S. 1995/96 grain exports to FSU countries, with corn exports declining

Table 19—Supply and use of grain, FSU and major countries

Marketing year beginning July 1		Area	Production ¹	Trade ²		Availability	Utilization			Stock change
				Imports	Exports		F.S.I. ³	Feed & resid.	Total	
FSU—15		1,000 hectares	-----				1,000 tons -----			
Total grains ⁴	1992/93	100,165	184,999	36,310	9,680	211,629	73,701	130,265	203,966	7,663
	1994/95	93,180	142,735	10,419	6,072	147,082	69,198	91,448	160,646	(13,564)
	1995/96 ⁵	90,793	119,639	12,240	5,800	126,079	66,590	74,917	141,507	(15,428)
	1996/97 ⁷	89,991	147,882	9,615	6,650	150,847	67,678	75,184	142,862	7,985
Wheat	1992/93	47,119	89,714	24,103	6,800	107,017	49,481	52,544	102,025	4,992
	1994/95	42,575	60,758	7,688	3,890	64,556	46,417	30,525	76,942	(12,386)
	1995/96 ⁵	44,819	60,018	9,590	4,100	65,508	46,399	28,420	74,819	(9,311)
	1996/97 ⁷	48,676	78,635	7,585	5,000	81,220	46,735	28,853	75,588	5,632
Coarse grains ⁶	1992/93	53,046	95,285	12,207	2,880	104,612	24,220	77,721	101,941	2,671
	1994/95	50,605	81,977	2,731	2,182	82,526	22,781	60,923	83,704	(1,178)
	1995/96 ⁵	45,974	59,621	2,650	1,700	60,571	20,191	46,497	66,688	(6,117)
	1996/97 ⁷	41,315	69,247	2,030	1,650	69,627	20,943	46,331	67,274	2,353
Russian Federation										
Total grains ⁴	1992/93	57,647	101,957	21,655	1,300	122,312	39,100	78,196	117,296	5,016
	1994/95	52,400	77,350	2,363	1,663	78,050	36,700	50,445	87,145	(9,095)
	1995/96 ⁵	51,100	60,800	6,050	575	66,275	34,717	41,580	76,297	(10,022)
	1996/97 ⁷	50,800	76,600	3,300	1,300	78,600	35,260	41,040	76,300	2,300
Ukraine										
Total grains ⁴	1992/93	12,141	35,093	2,150	380	36,863	14,450	23,606	38,056	(1,193)
	1994/95	11,505	32,383	413	245	32,551	13,843	21,181	35,024	(2,473)
	1995/96 ⁵	12,350	31,850	125	1,275	30,700	13,977	18,310	32,287	(1,587)
	1996/97 ⁷	12,450	37,030	225	1,925	35,330	14,100	18,300	32,400	2,930
Kazakstan										
Total grains ⁴	1992/93	21,803	28,863	400	7,700	21,563	6,115	11,330	17,445	4,118
	1994/95	20,335	15,960	2	4,074	11,888	5,777	7,101	12,878	(990)
	1995/96 ⁵	18,315	9,260	0	3,525	5,735	5,140	3,365	8,505	(2,770)
	1996/97 ⁷	17,650	15,800	0	3,100	12,700	5,505	4,645	10,150	2,550
Belarus										
Total grains ⁴	1992/93	2,532	7,049	2,010	280	8,779	2,292	6,294	8,586	193
	1994/95	2,635	6,018	900	25	6,893	2,053	4,998	7,051	(158)
	1995/96 ⁵	2,495	5,450	720	25	6,145	1,950	4,495	6,445	(300)
	1996/97 ⁷	2,500	6,000	625	25	6,600	2,040	4,460	6,500	100
Uzbekistan										
Total grains ⁴	1992/93	1,030	1,745	3,710	0	5,455	3,631	1,722	5,353	102
	1994/95	1,295	1,972	2,472	0	4,444	3,578	1,245	4,823	(379)
	1995/96 ⁵	1,610	2,407	1,755	0	4,162	3,527	966	4,493	(331)
	1996/97 ⁷	1,735	2,807	1,755	0	4,562	3,601	861	4,462	100
Moldova										
Total grains ⁴	1992/93	665	1,974	715	20	2,669	1,090	1,927	3,017	(348)
	1994/95	743	1,655	491	40	2,106	1,017	1,267	2,284	(178)
	1995/96 ⁵	794	2,979	170	400	2,749	1,058	1,490	2,548	201
	1996/97 ⁷	794	2,709	150	300	2,559	959	1,500	2,459	100
Other FSU (9)										
Total grains ⁴	1992/93	4,347	8,318	5,670	0	13,988	7,023	7,190	14,213	(225)
	1994/95	4,267	7,397	3,778	25	11,150	6,230	5,211	11,441	(291)
	1995/96 ⁵	4,129	6,893	3,420	0	10,313	6,221	4,711	10,932	(619)
	1996/97 ⁷	4,062	6,936	3,560	0	10,496	6,213	4,378	10,591	(95)

() = Negative value.

¹ Production is in cleanweight. ² Includes intra-FSU and extra-FSU trade. ³ F.S.I. = food, seed, and industrial use.

⁴ Wheat and coarse grain only (excludes rice, pulses, buckwheat, and other minor grains). ⁵ Preliminary.

⁶ Includes barley, corn, millet, oats, and rye. ⁷ Projection.

Source: USDA, estimates as of May 1996.

due to higher prices and weak demand from a shrinking FSU livestock sector.

Reduced Supply and Modest Liberalization Contribute to Higher Domestic Prices

Reduced state procurement and increased private grain sales in some FSU countries have led to partial liberalization of grain prices, bringing them more in line with international prices. State grain procurements by the CIS countries dropped more than half between 1993 and 1995 (table 20). The share of state procurements in total CIS grain output declined from nearly 30 percent in 1992 and 1993 to around 16 percent in 1995. Reduced supply as a result of the lower 1995/96 grain harvest also contributed to higher prices in 1995 and early 1996.

Russia, Ukraine, and Kazakhstan have all reduced state grain procurements considerably over the past 3 years (table 21). **Russian** grain procurements fell most dramatically in 1994, when procurements at the federal level all but collapsed, but remained strong at the regional level. Authorities in many regions of Russia are seeking to maintain grain procurements through a variety of non-market means such as subsidized input prices, regulated grain prices, ownership of storage and processing facilities, and trade restrictions at the regional level. The degree of their success in maintaining regional grain procurements will directly depend on the depth of overall economic reform in **Russia** in coming years and the spread of this reform at the regional level.

Ukraine and **Kazakhstan** also experienced a sharp drop in state grain procurements in 1995, one year later than in **Russia**, owing to the slower pace of reform in these two countries. **Kazak** procurements collapsed in 1995 after the government stopped subsidizing bread and mixed feed prices in October 1994. **Ukrainian** procurements declined by nearly one-half in 1995 as budgetary constraints prevented them from reaching target levels. Less reform-minded governments in **Be-**

larus, Turkmenistan, and Uzbekistan have maintained or even raised the volume of their state grain procurements in recent years through large subsidies and tightly regulated grain markets reminiscent of the Soviet era.

In most FSU countries, non-state marketing channels have emerged that include barter, in-kind payment, private grain

Table 20—State grain procurements, CIS

Country	1991	1992	1993	1994	1995 ¹
<i>1,000 tons</i>					
Russian Fed.	23,600	26,100	28,200	12,100	9,500 ²
Federal	na	na	na	2,300	931 ²
Regional	na	na	na	9,800	8,569 ²
Ukraine	11,494	11,071	14,398	10,996	5,800 ²
Belarus	1,085	1,639	1,824	1,837	1,729 ²
Moldova	489	328	555	146	125
Kazakstan	3,449	13,137	6,930	4,131	156
Uzbekistan	571	1,001	1,109	1,496	1,993
Kyrgyzstan	165	171	283	104	11
Tajikistan	28	16	25	12	15 ³
Turkmenistan	94	261	420	782	800 ³
Armenia	59	63	32	30	30 ³
Azerbaijan	303	325	324	268	291
Georgia	42	80	14	3	5 ³
TOTAL CIS	41,379	54,192	54,114	31,905	20,456
As percent of total output	26	28	29	21	16

na = Not available.
¹ January 1 to September 30, 1995 unless otherwise noted.
² January 1 to December 31, 1995. ³ Estimate.
Sources: Statkom SNG; various FBIS reports.

Table 21—Share of goods marketed by former state enterprises through state procurement agencies

Country	Grains				Potatoes				Meat ¹				Vegetables			
	1990	1993	1994	1995 ²	1990	1993	1994	1995 ²	1990	1993	1994	1995 ²	1990	1993	1994	1995 ²
<i>Percent</i>																
Russian Fed.	76	64	33	36 ³	61	45	34	10 ³	na	78	69	61 ³	74	65	57	48 ³
Ukraine	83	67	63	48	47	44	27	13	na	79	66	56	63	59	51	37
Belarus	67	74	75	84	55	51	40	30	na	85	80	67	67	60	58	51
Moldova	36	40	16	25	28	6	3	2	na	53	32	16	75	59	50	44
Kazakstan	95	74	55	17	86	41	30	3	na	64	40	15	87	50	42	38
Uzbekistan	99	95	94	95	68	60	55	26	na	82	65	51	71	62	65	59
Azerbaijan	na	64	62	76	na	76	68	31	na	82	69	53	na	92	91	60
Kyrgyzstan	74	67	27	10	75	38	14	0	na	43	21	5	62	46	22	20

na = Not available.

¹ Includes beef, pork and poultry. ² January–September except as noted. ³ January–December (full year).

Source: Statkom SNG.

traders, and commodity exchanges. Private grain traders and commodity exchanges generally offer farmers the highest prices and most attractive payment terms for their grain. Among the leading FSU grain markets, private grain traders are the best developed in **Russia**. However, the capacity of private channels to market grain is limited by regional governments and various physical and institutional infrastructure deficiencies, the most important of which is prohibitively high transport costs. Non-state marketing channels that rely on non-cash transactions, such as barter and in-kind payment, have also become widespread because of high inflation and shortages of cash, further eroding the importance of the state in grain marketing.

Over the next decade, private grain traders and commodity exchanges could expand their market share considerably if they are able to increase capitalization and develop better contacts with producers and consumers, and if regional trade barriers are reduced. Recent experience in **Russia** points to such progress, with commercial banks entering the grain marketing scene by linking up with various private grain traders. The traders are aggressively developing contacts at the local level and reportedly buying some storage and processing facilities as well. At the same time, barter, in-kind payment, and direct sale by farmers are likely to remain significant in the near to medium term.

While domestic grain prices are likely to move closer to international prices, this movement may be uneven and should favor those FSU countries that achieve the most progress on reform. The continued discrepancies in domestic grain prices among FSU countries and between the FSU region and world markets could create attractive export (or import) opportunities for grain producers. For instance, if **Kazakhstan** and **Ukraine** continue to liberalize their grain markets more slowly than **Russia**, domestic prices could be held lower and provide strong incentive for them to export wheat and other grains to **Russia**. (Export controls imposed by Ukraine in 1995 have encouraged export of flour instead of wheat). Conversely, **Russia** would be less inclined to export barley to FSU countries with lower domestic prices, preferring to sell it domestically or on world markets for higher prices.

Bread Prices Remain Heavily Politicized

A major reason for large discrepancies in grain prices among FSU countries is the heavy political significance of bread prices. Bread prices remain heavily subsidized in select countries such as **Turkmenistan** and **Uzbekistan**, while they have been partially or totally freed in many other countries, including **Russia** and the **Baltics**. This has caused the price of a 1-pound loaf of bread in early 1996 to range from the equivalent of about 2 cents in the Turkmen capital to nearly 60 cents in Moscow (fig. 2). Thus, the desire to maintain low and affordable bread prices has compelled some FSU governments to keep domestic grain prices below world market levels.

The potential for bread prices becoming a major political issue was illustrated in **Russia** prior to the December 1995 parliamentary elections. During October-December, the Russian media carried numerous dire forecasts that bread prices might more than double in light of **Russia's** low grain harvest in

the fall of 1995 and continued high rates of inflation. However, the relatively small share of grain in the retail cost of a loaf of bread and deceleration on inflation in late 1995 and early 1996 meant that the actual rise in bread prices between mid-November and mid-February was no more than 20 percent. The forecasts of a doubling in bread prices were most likely designed to discredit the current government, led by Prime Minister Chernomyrdin.

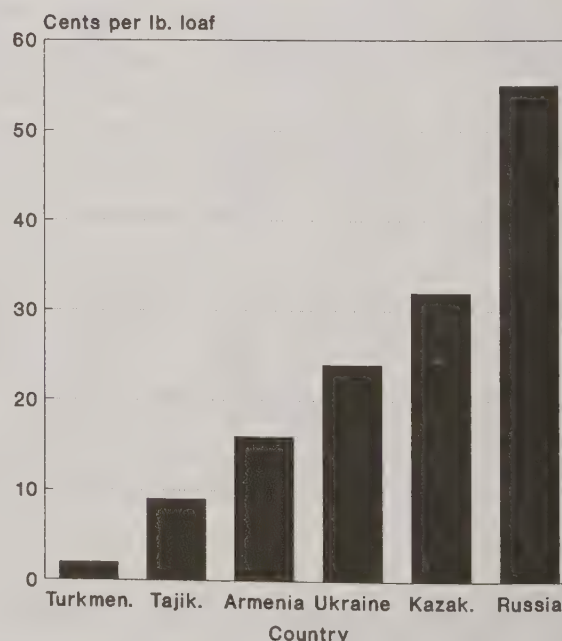
While bread prices have risen in **Russia** and in other FSU countries, bread remains one of the most affordable basic foods. This contributed to a 13-percent increase in per capita bread consumption in **Russia** between 1990 and 1995, a time when consumption of most other foods except potatoes was declining. In **Armenia** and **Kazakhstan**, bread consumption rose sharply between 1990 and 1994, while it was maintained in **Ukraine** (fig. 3). Bread is likely to remain one of the most affordable foods in most FSU countries in coming years.

Production Forecast To Rebound in 1996/97

The growing role of market forces in FSU grain price formation is changing the structure of grain production. Prices have risen more steeply for food grains than feed grains in many FSU countries as a shrinking livestock sector reduces feed grain demand significantly, and steady or rising bread consumption supports food grain demand. Farmers have responded by increasing the share of wheat in total FSU grain area from 43 percent in 1991/92 to 49 percent in 1995/96.

After 3 years of declines, larger wheat area and better winter grain conditions should contribute to an increased FSU grain harvest in 1996/97. As of May 1996, 1996/97 FSU grain production (including pulses, buckwheat, and miscellaneous grains, which the official USDA forecast excludes)

Figure 2
Bread Prices, CIS Capitals,
January 1996



Source: Statkom SNG.

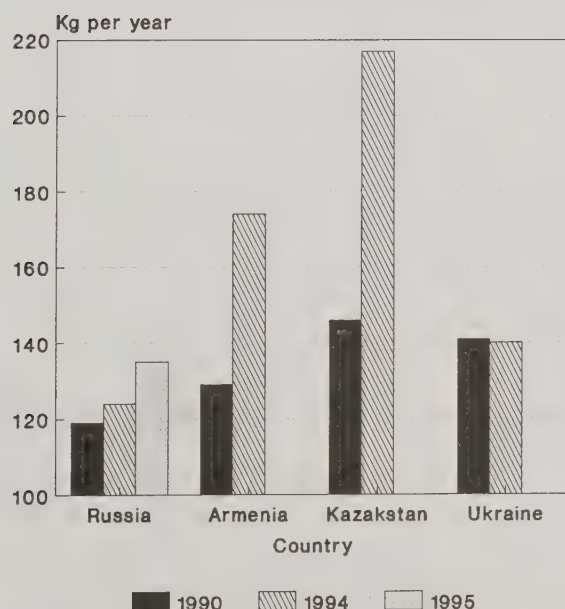
was forecast at 154.3 million tons, 23 percent above the 1995/96 crop, which was the lowest in three decades (table 22). FSU farmers are responding to price signals by sowing more wheat and rye area, while reducing area sown to barley and oats. For instance, the share of wheat and rye in total FSU grain area is projected to rise from 51 percent in 1995/96 to nearly 60 percent in 1996/97.

In spite of an expected decline in grain area over the next 10 years, rising yields should ensure steady or rising FSU grain production. The likely reasons for rising yields include increased quantity of fertilizer applications, higher seed quality, more efficient harvesting techniques and more modern machinery, and reduced waste and spoilage. Grain area declines will be driven by further removal of marginal lands from production and shifting of some land into other crops such as sunflowerseeds, which could bring higher profits. Even if FSU grain production increases as projected over the coming decade, it will likely remain significantly below levels typical of the 1980s as the region adjusts to lower consumption following contraction of its livestock sector and because of reduced waste.

In most FSU countries, area sown to 1996/97 winter grain crops rose. **Russian** winter grain area sown rose 8 percent, and **Ukrainian** and **Uzbek** winter grain area reportedly increased as well. **Uzbekistan** and **Turkmenistan** have recently increased grain area in a campaign to achieve grain self-sufficiency at virtually any cost. In **Russia** and **Ukraine**, winterkill losses were less than in prior years, as adequate snow cover provided protection winter grains from an unusually cold winter. For the 1996/97 harvest, winterkill in **Russia** and **Ukraine** is estimated at around 10 percent. For the spring seeding campaign, farmers generally have adequate seed sup-

Figure 3

Per Capita Bread Consumption*



* consumption of bread & grain products, grain equivalent.
Source: Statkom SNG.

Table 22—Area, yield, and production of total grain (cleanweight), FSU countries ¹

Country	1990	1993	1994	1995 ²	1996 ³
Area 1,000 hectares					
Russian Fed.	63,068	62,004	56,350	55,050	54,850
Ukraine	14,583	14,260	13,244	13,925	14,025
Belarus	2,630	2,749	2,775	2,635	2,640
Moldova	746	911	821	877	877
Kazakhstan	23,356	22,250	20,900	18,785	18,150
Uzbekistan	1,017	1,275	1,475	1,790	1,915
Kyrgyzstan	537	641	598	533	523
Tajikistan	224	281	259	259	268
Turkmenistan	187	441	633	703	743
Armenia	135	208	164	149	139
Azerbaijan	582	705	535	595	575
Georgia	270	264	264	264	266
Lithuania	1,072	1,254	1,217	1,120	1,060
Latvia	671	696	489	411	406
Estonia	396	376	319	296	255
Total FSU	109,474	108,315	100,043	97,392	96,692
Yield Tons per hectare					
Russian Fed.	1.85	1.60	1.45	1.15	1.45
Ukraine	3.50	3.18	2.68	2.44	2.78
Belarus	2.68	2.73	2.20	2.09	2.30
Moldova	3.40	3.67	2.14	3.52	3.21
Kazakhstan	1.22	0.97	0.79	0.51	0.90
Uzbekistan	1.87	1.65	1.66	1.61	1.71
Kyrgyzstan	2.80	2.50	1.74	1.86	1.83
Tajikistan	1.35	1.07	1.00	0.98	1.02
Turkmenistan	2.41	2.10	1.79	1.46	1.45
Armenia	1.89	1.52	1.47	1.79	1.77
Azerbaijan	2.34	1.55	1.90	1.83	1.98
Georgia	2.47	1.60	1.86	1.86	1.92
Lithuania	3.05	2.10	1.75	1.73	1.83
Latvia	2.42	1.77	1.84	1.69	1.75
Estonia	2.42	2.10	1.61	1.55	1.63
Total FSU	1.99	1.74	1.51	1.29	1.60
Production 1,000 tons					
Russian Fed.	116,676	99,000	81,450	63,400	79,562
Ukraine	51,009	45,410	35,497	33,938	39,018
Belarus	7,037	7,501	6,093	5,520	6,070
Moldova	2,539	3,340	1,760	3,087	2,817
Kazakhstan	28,488	21,635	16,477	9,637	16,278
Uzbekistan	1,899	2,100	2,445	2,879	3,279
Kyrgyzstan	1,503	1,603	1,043	993	958
Tajikistan	303	302	258	253	273
Turkmenistan	450	925	1,130	1,023	1,078
Armenia	255	316	241	266	246
Azerbaijan	1,364	1,096	1,016	1,086	1,136
Georgia	667	422	491	492	512
Lithuania	3,268	2,633	2,127	1,940	1,940
Latvia	1,622	1,235	900	695	710
Estonia	957	791	514	460	415
Total FSU	218,037	188,309	151,442	125,669	154,292

¹ Official total grain data as reported by the FSU countries. Includes wheat, barley, rye, corn, oats, millet, buckwheat, unmilled rice, and pulses. ² Preliminary. ³ Projected.
Sources: Goskomstat; Statkom SNG.

plies. However, cold weather in March delayed spring planting, which in Russia and Ukraine was lagging 1 to 2 weeks relative to the previous year.

Record high wheat prices on world markets, and in FSU countries as well, could contribute to a larger wheat crop in 1996/97, forecast by USDA in May 1996 at 19 million tons above a year earlier. After 2 years of severe drought, increased production is expected to result from higher yields and larger area sown. In the coming decade, the combination of steady or rising demand for food wheat and gradual recovery in feed wheat demand should provide the impetus for further growth in FSU wheat production. Most of the increase would likely come from higher yields rather than area expansion, though if production is sufficiently profitable, area could rise in some years.

FSU coarse grain production is also projected to rise 16 percent in 1996/97. The key factor will be higher yields as coarse grain (especially barley) yields partially recover from their lowest levels in more than a decade. Weaker demand and lower prices (relative to food grain prices) for most coarse grains excluding corn is projected to limit any potential increase in 1996/97 coarse grain area. Slow recovery in demand for feed grains from the livestock sector will likely restrict long-term growth in FSU coarse grains output. Livestock herds are continuing to shrink in 1996 and chances for significant recovery are minimal until after the year 2000. Weak demand for coarse grains in FSU countries could keep their prices lower than for food wheat and prevent strong growth in output over the next decade.

Food Grain Demand Should Increase Before Feed Use

FSU 1996/97 total grain use was forecast by USDA in May 1996 at 143 million tons, slightly above last year's level,

which was the lowest in two decades. Increased waste and slightly higher food use of grain may partially be offset by a projected continued decline in feed use, as FSU livestock herds are expected to shrink for at least another year before stabilizing. Grain for food use should increase slightly, as higher population and stable per capita consumption of grain products such as bread and pasta are likely to offset reduced waste. Seed use is unlikely to change much as a result of stabilizing grain area. Industrial use of grain could begin to recover from recent declines in coming years if the recent flood of imported spirits and beer is stemmed by protectionist policies and a rebound in domestic production. Possible barriers erected by individual FSU countries, as recently seen in **Russia**, and Western investment, could facilitate this process. Grain stocks are estimated to be up from 1995/96's very low levels as rebuilding of FSU stocks begins. However, high market prices could limit stock rebuilding in the next year if world prices remain high.

Total FSU grain consumption is expected generally to stagnate over the next 5 years, followed by gradual recovery beginning around the year 2000. Key to the recovery is the feed sector, which is expected to show increased demand only after personal incomes begin to rebound in the late 1990's. Over the coming decade, population growth in Central Asia should ensure steady or rising FSU food grain demand. A contraction in total area sown with grains and farmers' use of better-quality seeds in smaller quantities to reduce production costs should contribute to declining seed use. Industrial grain use could increase over the next decade as domestically produced alcoholic beverages and beer, some produced on Western license, are better able to compete with imports.

Rebounding Russian Sunflowerseed Production Boosts Exports and Domestic Oil Production

Sunflowerseed production in Russia in 1995/96 (October/September) was the highest in over 20 years and indicates how much price and trade liberalizing reforms have affected this crop. However, it is the inefficiencies in the processing industry that explain the scale of FSU sunflowerseed exports and vegetable oil imports. Production of sunflowerseed in Russia and Ukraine are likely to continue to rise, although at a slower rate than last year. Exports of sunflowerseed, already climbing in 1995/96, could rise again in 1996/97. However, sunflowerseed oil import growth will moderate as domestic production rises, but not by enough to fulfill domestic demand. Government policy could become more interventionist over the next few years and could affect oilseed production and domestic processing. [Roger L. Hoskin]

Price and Trade Liberalization Pay Off as Sunflowerseed Production Rises to Near Record Levels

This season for the first time since 1989, FSU sunflowerseed production jumped to over 7 million tons, and was the second highest on record (table 23). Total FSU sunflowerseed production is expected to climb about 10 percent by 2005. The rise will come from incrementally improving yields as better management practices and seeds, and increasing input use take hold. Sown area could slip from present highs because other crops are beginning to compete for land, and sunflowers are unlikely to command the profit advantage over other crops they had before reform began.

While sown area has risen each year since 1991, it was the 1995 recovery in **Russian** yields that reversed the declining production trend begun in 1990. Similarly in **Ukraine**, a yield recovery from 1994's drought boosted that country's production in 1995. Russia and Ukraine together have historically produced about 95 percent of total FSU sunflowerseed output.

In contrast to sunflowers, soybean production in **Russia** has declined nearly 50 percent since its recent high in 1989. Over 80 percent of soybeans are grown in the Far Eastern regions such as Amur oblast, Primorskii krai, and Khabarovskii krai. Most of the area decline may be past. Russian soybean area declined almost 150,000 hectares in 1995 to 480,000 hectares compared to the 1986-90 annual average of 630,000 hectares. Eighty percent of that decline came in the Amur valley, much of which is probably too dry for soybeans. In the future, soybean area could stabilize, and yields could even rise in Primorskii Krai, where the crop seems better suited.

Signs of Institutional Change in the Production Sector

During the Soviet period, planners emphasized grain production at the expense of oilseed production despite apparently better profitability of sunflower seeds. With the end of central planning and most state procurement, higher profits for sunflower seeds compared to other field crops led to increased plantings, even as yields and production fell (table 24). After

the 1994 decree ending all export restrictions, the surge exports and prices only increased sunflowerseed profitability. In 1995, yields rebounded benefitting from better weather, resulting in higher output.

Another factor contributing to improved yields was contracting. By June of last year, 40 percent of the sunflowerseed crop had been contracted for by private buyers. In many cases, these buyers offered technical packages including seed, fertilizers, and chemicals. In 1995, over half of the imported chemicals used in **Russian** agriculture for all crops were delivered under contract. However, imported chemicals were still only about a fourth of total 1995 applications for all field crops. At harvest, contract terms usually required producers to deliver 50 percent of the crop in payment. Contracting is a common way of producing some crops in the United States, as it offers advantages to both buyers and sellers. Buyers have control over quality and quantity where markets are small. Producers have an assured buyer. In Russia, the advantages are the same; however, this is the first time that non-government groups are providing resources and technical support to Russian producers. These resources should contribute to improved yields. Contracting is an institutional development toward freer markets and a way of bringing capital into agriculture. On the one hand it is a result of the higher profits sunflowers have generated over the last few seasons and it is a step along the way toward genuine market reform, which should contribute to improved productivity in the longer term.

Government policy, at least in **Russia**, could become more interventionist during the upcoming year. Proposed government commodity programs will offer subsidized inputs to be repaid from sales of commodities to government procurement agencies. In the past, the government has usually postponed or forgiven payment of loans. Government procurement of sunflowerseeds has virtually ended in Russia. By 1994, almost 90 percent of farm sales were through private channels. Yet, the proposed government program appears to be an attempt to restore state procurement.

One objective of government policy could be to funnel sunflowerseeds to domestic processors. Restrictions on exports

have been publicly discussed as a way of doing this. Although it would benefit the domestic processing industry, such a move would be unpopular with producers. Strict regulation of exports would reduce prices and ultimately domestic production and exports.

Table 23 -- Oilseeds balances, FSU countries¹

Item	1992/93	1993/94	1994/95	1995/96
<i>1,000 tons</i>				
Total oilseeds				
Area	9,002	8,980	8,961	10,133
Yield	1.14	1.11	0.98	1.12
Production	10,235	9,922	8,738	11,431
MY Imports	130	173	188	175
MY Exports	464	737	1,010	1,530
Sunflowerseed				
Area	4,980	5,020	5,203	6,440
Yield	1.14	1.06	0.85	1.13
Production	5,687	5,305	4,443	7,370
MY Imports	0	30	40	65
MY Exports	410	660	970	1,520
Soybeans				
Area	787	754	702	725
Yield	0.81	0.86	0.79	0.74
Production	634	647	556	540
MY Imports	120	133	125	105
MY Exports	54	60	10	10
Total oilmeal				
Production	4,110	3,954	3,524	4,074
MY Imports	1,374	1,333	831	987
MY Exports	43	43	63	141
Consumption	5,441	5,244	4,292	4,892
Sunflowerseed meal				
Production	1,492	1,300	976	1,649
MY Imports	76	65	130	188
MY Exports	0	0	15	93
Consumption	1,568	1,365	1,091	1,721
Soybean meal				
Production	462	506	452	383
MY Imports	1,050	1,020	450	548
MY Exports	0	0	0	0
Consumption	1,512	1,526	897	926
Total vegetable oil				
Production	2,515	2,191	1,770	2,493
MY Imports	882	674	933	952
MY Exports	478	432	336	389
Consumption	2,905	2,447	2,375	3,013
Sunflowerseed oil				
Production	1,730	1,436	1,067	1,816
MY Imports	238	248	470	478
MY Exports	192	157	100	170
Consumption	1,748	1,537	1,443	2,081
Soybean oil				
Production	113	93	80	73
MY Imports	240	80	88	101
MY Exports	0	0	0	0
Consumption	349	175	170	174

¹ October/September marketing year (MY).
Source: USDA, as of May 1996.

Vegetable Oil Consumption Rises--Trend Is for Continued Upturn

By 2005, total vegetable oil consumption in the FSU could rise over 20 percent from 1995/96, after falling during 1992-95. **Russia** and **Ukraine** will experience the largest increases and sunflowerseed oil will remain the consumer's oil of choice, except in Central Asia where cottonseed oil is more commonly used. Imports will also rise, but domestic production will account for most of the consumption increase.

There are several reasons for the long-term consumption rise. First, incomes are expected to recover and market reforms are expected to continue at least at a modest pace. Second, the contraction in the livestock industry has reduced supplies of animal fats, thereby raising prices. Consumers are forced to switch to less expensive fats. Prices for butter and animal fats have risen faster than the price for margarine, a substitute product. The reduced supply of animal fats may explain the wide popularity of imported bottled, refined, bleached, and deodorized vegetable oil in **Russia** and **Ukraine** particularly. The imported products have arrived in small consumer-ready sizes and can be used for home cooking purposes in place of other fats. Domestic processors have produced mostly for the mayonnaise, salad dressing, and margarine market, as less of the domestically produced oil is refined or deodorized. Reform in the Russian and Ukrainian oilseed processing industry should help make a more modern array of products available from domestic producers.

Table 24 -- Production cost and profitability of selected crops, Russia

Crop	1990	1991	1992	1993	1994	1995 ¹
Production cost² <i>Dollars/ton</i>						
Grain	6.26	3.52	8.58	17.13	35.41	64.43
Sunflowerseed	8.07	4.23	13.69	27.25	58.46	87.01
Sugarbeets	2.38	1.30	4.58	9.78	21.34	25.42
Potatoes	12.62	6.98	14.05	29.69	74.90	114.19
Vegetables	8.63	6.31	17.64	46.58	86.71	139.40
Profitability³ <i>Percent</i>						
Grain	158	104	304	190	59	41
Sunflowerseed	145	231	381	217	145	120
Sugarbeets	26	-2	95	109	42	31
Potatoes	24	120	150	102	77	63
Vegetables	42	97	99	118	74	26
Ruble-dollar exchange rate	19	59	223	934	2,202	4,562

¹ Preliminary. ² Cost of production (sebestoimost') in the state sector. ³ Profitability (rentabel'nost') equals revenue plus state subsidies minus prime cost of production, divided by the latter. Source: Goskomstat Rossii.

Oilseeds Bypass Processing Industry

It is the processing bottleneck that leads **Russia** to export sunflowerseeds and import sunflowerseed oil. While government intervention could keep more seeds home for domestic crush, it will not fix the numerous problems at the root of the inefficiency. The Soviet practice of having many local processing plants suggests that even at close to full output, domestic processors have not attained the scale of operations common in the West. In addition, processing plants in **Russia** and **Ukraine** not only are in poor repair, but have been operating at less than half capacity as production fell and exports rose. Furthermore, staffing in these plants is much greater than comparable units in the West. All these factors contribute to high per unit costs. Government subsidies and loans forestall bankruptcy. Until the processing sector makes the necessary changes in its management practices, modernizing investment will not come and the FSU countries are likely to continue to need to import processing services; that is, export sunflowerseeds and import vegetable oil.

There are a number of indications that the FSU processing industry is lagging behind the production sector in liberalization. Margins in the United States can range between \$20 and \$50 a ton. Similarly calculated processing margins between the value of vegetable oil and meal and the price of sunflowerseed for Russian processors remain many times higher. Yet the FSU industry appears unable to make a profit. Further evidence of inefficiency is the increased "on-farm" processing of sunflowerseeds using mechanical extractors. Mechanical extraction is less efficient than solvent extraction, leaving a larger portion of the valuable oil in the cake. However, mechanical extraction can be accomplished on a smaller scale and requires less expertise. An estimated 10 percent of the **Russian** 1995 crop was processed in this manner. Producers then market the oil directly to food processors and feed the meal on the farm or sell it locally. The fact that producers find it profitable to process their own crop is a clear indication of extraordinary inefficiency in the oilseed processing sector.

Trade Patterns Still Favor Sunflowerseed Exports and Oil Imports

The sunflowerseed export "boom" is expected to slow down later in the decade as export growth becomes more moderate after 1996/97. In fact by 2005, FSU sunflowerseed exports may only be slightly higher than in 1996/97. The reasons are that **Russian** and **Ukrainian** domestic prices are now much closer to world levels, and presumably some modernization of both plant and management in the processing sector will allow domestic crush to meet a greater proportion of domestic vegetable oil demand. For 1995/96, Russian sunflowerseed exports are forecast to increase to 1.3 million tons, after climbing to 800,000 tons in 1994/95. In Ukraine, sunflowerseed exports have not experienced the same sharp growth as in Russia, because the Ukrainian government has maintained licenses and quotas to limit exports of sunflowerseeds and sunflowerseed oil.

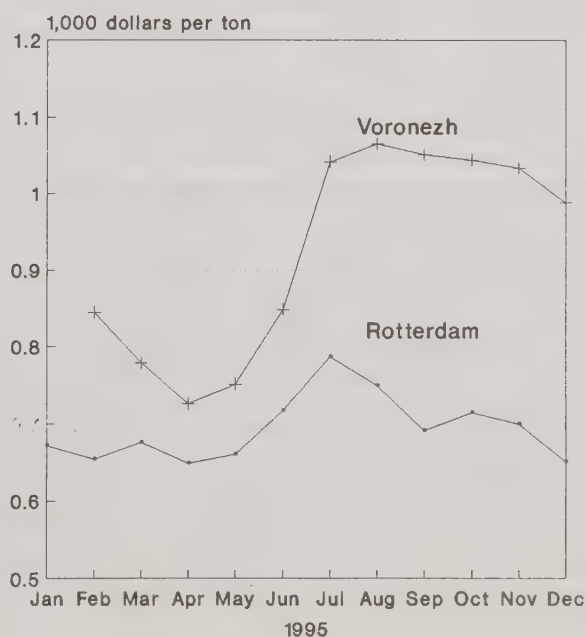
While seed exports have been brisk, the FSU remains a net importer of sunflowerseed oil. The imports have contributed substantially to overall availability of fats and oils, in **Russia**

particularly. Sunflowerseed oil imports are expected to total 250,000 tons in 1995/96 and could rise slightly again in 1996/97. The increase in domestic production will help curb imports. However, prices clearly favor imports. For 1995, **Russian** sunflowerseed oil prices (crude, southern Russian points) averaged over \$900 a ton, while Rotterdam prices averaged about \$700 a ton (fig. 4).

In contrast to sunflowers, which are crushed for oil, soybeans are usually crushed for high protein meal. Sharply higher prices have dampened demand for commercially prepared mixed feed. However, even with recovery in the livestock sector, the FSU oilseed market is likely to remain a crush-for-oil market. This is primarily because sunflowers are 40 percent oil, compared to only 20 percent in soybeans, and the oil represents the greatest per unit value of the crush. The implications for trade are that **Russia** is unlikely to ever be much of a soybean importer. Demand for high protein feed may lead to importation of soybean meal, but domestic processors are likely to continue to prefer processing the higher oil content sunflowerseed. Soybean production is likely to continue in the Russian Far East. Potentially, strong demand for meal in the fast growing economies of the Far East could prompt both soybean and soybean meal exports from Russia. In the Asian Far East, Russia could become a competitor to the United States, although a small one, for soybeans and soybean products sales. Currently, the amounts produced in this region are small compared to overall demand in Asia.

Domestic demand for soybean meal in European **Russia** will likely be limited by prices. It is already apparent that local prices for soybean meal are high compared to Rotterdam. In 1995, soybean meal prices averaged \$200 a ton in Rotterdam, and \$280 a ton in southern Russia. Also in 1995, soybean meal imports were somewhat seasonal, dropping off as the

Figure 4
Sunflowerseed Oil Prices,
Rotterdam and Voronezh (Russia)



Sources: USDA/ERS; OGO.

new sunflowerseed crop was harvested. This indicates that price-conscious domestic buyers will purchase and use domestic sunflowerseed meal and other proteins such as fish meal, meat, and bone meals when available and competitively priced (on a feed value basis) compared to imports.

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FSU Sugar Imports Should Grow, Despite Increasing Protectionism

By 2005 FSU net sugar imports are projected to rise by about 50 percent, to close to 5 million tons. Russian sugar imports in 1996/97 should be similar to those in 1995/96, as an expected rise in imports of raw sugar should offset a fall in imported white sugar. Since Russia is moving toward high tariffs on imported processed sugar, including from Ukraine, the country's imports should switch more to raw sugar, which face lower tariffs. In Russia and Ukraine, price liberalization should eventually lead to greater profitability for sugar producers, which should help stimulate production. Since reform began FSU sugar consumption has dropped substantially, but the decline appears to be bottoming out.
[Roger L. Hoskin and Yuri Markish]

Although Improved Weather Increased 1995/96 Sugar Production, Longer Term Growth Depends on Improved Management and Productivity

In 1995/96, output of sugarbeet and beet sugar in **Russia** increased about 40 and 25 percent over 1994/95, respectively, while the growth in **Ukraine** of both was about 6 percent. Sugarbeet and beet sugar production in 1996/97 is expected generally to equal the previous year's level. Although better weather was the main reason FSU sugar output rebounded in 1995/96, growth over the medium to long term will have to come from improved management and stronger incentives to use inputs more productively.

Russia and **Ukraine** together account for 95 percent of total FSU sugar output (table 25). In both countries, sugar area is expected to decline, as the use of some unsuitable land for sugarbeet production that began under central planning is corrected. Although **Russian** total area declined slightly in 1995, regional shifts continue, with some regions increasing, and others decreasing, plantings. In the central black soil region of Russia, area has dropped since 1992 by 15-20 percent. Yet, over time improving profitability for sugar producers should raise total area close to prereform levels. In **Ukraine**, regional shifts in area also continue. As in Russia, this suggests that the geography of production is being determined increasingly by land productivity and profitability. The reallocation of land should improve yields in coming years. Improved plant extraction rates, along with better yields, could push total FSU sugar production up 20 percent by 2005.

Payment-in-Kind Results in More Efficient Pricing

In **Russia**, and also in **Ukraine** beginning in 1995, a payment-in-kind pricing mechanism exists in the sugar industry. In 1995/96, Ukraine for the first time had no price controls, state procurement, or export taxes for sugar. Rather, sugarbeets are sold under contract to processors and payment is rendered "in kind." Given how this system operates in the FSU region, producers retain about 70 percent of the sugar produced, while processors receive the rest. Percentages can be negotiated, and the price that processors pay producers for sugar depends on the wholesale market price. While less liquid than cash markets, payment-in-kind systems have the merit of transmitting relative price information. They are often used when financial institutions are weak.

Although many processors are unprofitable with their 30 percent take, excess capacity prevents them from raising their share. In both **Russia** and **Ukraine**, production declines since 1990/91 have shortened the processing cycle to about 60 days, compared to about 120 in prereform times, raising unit costs. Excess capacity in processing is one reason why pressure is increasing for protection against imported refined sugar.

Sugar Consumption Beginning To Stabilize

For the next few years, FSU sugar consumption per capita is projected at about 30 kilograms, and by 2005, the figure could rise by 15 to 20 percent. The large decline in sugar consumption since reform began is probably bottoming out (fig. 5). Prereform FSU sugar consumption per capita was over 40 kilograms. Since reform began, declining real incomes, re-

Table 25-- Sugar balances, FSU countries ¹

Country/ Year	Area	Yield	Sugarbeet output	Beginning stocks	Sugar prod. from beets	Total sugar imports	Domestic sugar supply	Total sugar exports	Estim. consum- ption	Ending stocks
	1,000 hectares	Tons/ha.				1,000 tons				
Russian Fed.										
1993/94	1,333	19.1	25,468	1,150	2,700	3,150	7,000	80	5,400	1,520
1994/95	1,104	12.6	13,950	1,520	1,655	2,700	5,875	100	4,900	875
1995/96 ³	1,085	17.6	19,110	875	2,060	3,200	6,135	100	5,000	1,035
Ukraine										
1993/94	1,519	22.2	33,717	708	4,188	32	4,928	1,958	2,400	570
1994/95	1,467	19.2	28,138	570	3,600	200	4,370	1,700	2,300	370
1995/96 ³	1,448	20.7	30,000	370	3,800	300	4,470	1,800	2,250	420
Others										
1993/94	251	24.1	6,060	407	567	2,150	3,124	0	2,665	459
1994/95 ²	249	16.2	4,035	459	418	1,993	2,870	39	2,490	341
1995/96 ³	239	20.7	4,954	341	522	1,835	2,698	40	2,340	318
Total FSU-15										
1993/94	3,103	21.0	65,245	2,265	7,455	5,332	15,052	2,038	10,465	2,549
1994/95 ²	2,820	16.4	46,123	2,549	5,673	4,893	13,115	1,839	9,690	1,586
1995/96 ³	2,772	19.5	54,064	1,586	6,382	5,335	13,303	1,940	9,590	1,773

¹ All data are in raw value, except area, yield, and output of sugarbeets. ² Preliminary. ³ Projection.
Source: USDA.

Figure 5
Per Capita Consumption of Sugar
in Russia & Ukraine



Source: USDA/ERS.

duced home manufacture of spirits, and increased imports of confections containing sugar have reduced consumption.

FSU sugar consumption will likely begin to increase after the turn of the century. Rising incomes will increase demand. Also, increasing domestic output of processed foods should displace many of the current imported Western foodstuffs that contain sugar. In many Western countries, rising personal incomes have coincided with falling, not rising, sugar consumption. The reason is that consumption of sugar substitutes has been growing in the West. However, at present in the FSU countries, virtually no market exists for such sweeteners, and one is not likely to develop in the near future.

Russia To Remain a Sugar Importer and Ukraine an Exporter

For the foreseeable future, the FSU region will likely remain a net importing area, with **Russia** the largest importing country. FSU net sugar imports, currently about 3.3 million tons, are projected by 2005 to grow by about 50 percent. However, the import structure will shift from refined white sugar to raw sugar, particularly concerning **Russian** imports. **Ukraine** has been taking advantage of its nearly free sugar trade with Russia by exporting a large amount of refined sugar. Consequently, pressure is growing in Russia to protect the sugar processing industry. In the near future Russia could impose tariffs on imports of Ukrainian refined sugar. Also, the current 25 percent tax on imports of non-FSU white sugar could be raised. **Russian** imports of raw sugar, however, are currently,

and will probably continue to be, taxed lightly. This means that sugarbeet producers receive much less protection than processors.

In the current year, most raw imports are expected to come from Cuba through a continuation of the sugar for oil swap. However, this barter arrangement has always involved underpricing of the oil exchanged for sugar, thereby creating a subsidy for Cuba. Over time Russia is likely to end this subsidy, by trading oil for sugar at prices determined by the world market. Even with such a change in pricing, Russia

would probably continue to receive much of its imported sugar from Cuba.

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Non-FSU Countries Supplanting Russia as Market for Cotton Exports

Central Asian cotton exports should continue to increase, especially in the near term. Strong demand in extra-FSU markets should more than compensate for the drop in Russian demand, caused by the severe contraction of Russia's textile industry. The development of textile industries within the Central Asian countries could also boost their domestic demand for cotton. Strong demand and improved yields should steadily raise production. [Jay K. Mitchell and Yuri Markish]

Extra-FSU Exports Should Continue To Grow Until 2000

Central Asian cotton exports, which in 1995/96 (August/July) are estimated at 1.7 million tons (table 26), should continue to grow steadily, and by 2000 may exceed 2 million tons. Much of the increase would probably come from continued growth in exports to extra-FSU countries, though intra-FSU cotton exports are likely to grow as well. However, between 2000 and 2005, FSU cotton exports could decline due to higher consumption in the FSU region, particularly in **Russia** and **Central Asia**.

From 1991/92 to 1995/96, extra-FSU exports rose from 0.7 million tons to 1.1 million. The main reason for the rise is simply that with the collapse of the USSR, the Central Asian countries are no longer required to send most of their output on to the **Russian** textile industry, but can export it for hard currency. Exports to extra-FSU markets could continue to grow because of improvements in quality and greater reliability in fulfilling export agreements.

Intra-FSU cotton exports by Central Asian producers will probably continue to decline slightly in the near term, but could increase in the long term as demand from **Russian** and domestic textile industries begins to recover. From 1991/92 to 1995/96, exports to **Russia** were more than halved from 0.8 million tons to less than 0.4 million, as Russian textile production dropped 50 percent. Russia faces stiff competition from higher-quality and lower-priced imports, and its textile industry will probably not begin to recover until after 2000, when productivity and quality-enhancing changes could take effect. Although Russia will probably remain the single large-

est country market for Central Asian cotton exports, its textile industry's slow and erratic recovery will prevent imports of the magnitude seen in the 1980s.

Central Asian countries are beginning to develop their own textile industries. Construction of new textile plants has begun in **Uzbekistan** and **Turkmenistan**. By 2005, textile production in these nations could rise 25 percent or more. This would increase their share of cotton output domestically processed from its current low level of less than 10 percent.

In the near term, the foreign trade of the Central Asian countries will probably remain largely state-controlled. After partial liberalization was introduced in 1992, **Uzbekistan** and **Turkmenistan** in 1995 reintroduced full state control over cotton exports. As in the other Central Asian nations, foreign trade organizations (only cosmetically changed from their days as complete state entities) handle cotton trade. They face no significant competition from private traders and charge high commission fees. Even if domestic pressures for market reform and trade liberalization remain weak, external pressure for reduced state control over cotton marketing and foreign trade should grow, mainly from international lending organizations such as the IMF and World Bank (as part of conditionality for loans) and foreign investors. Because cotton is a hard currency-earning export, foreign investors can be lured into the cotton and textile industry with the expectation that part of the return on their investment can be earned in or bartered for hard currency. Yet, investors will have to be satisfied that state control and interference in the cotton and textile industry will be kept to an acceptably low level,

Table 26—Cotton balances, selected FSU countries

Country/ Year	Beginning stocks	Area	Yield (Seed cotton)	Seed cotton output	Ginning rate	Lint cotton output	Lint cotton imports	Lint cotton supply	Lint cotton exports	Domestic lint con- sumption	Ending stocks	Cotton cloth prod. ¹
<hr/>												
	<i>Mil. tons</i>	<i>Mil. ha.</i>	<i>Tons/ha</i>	<i>----- Million tons -----</i>						<i>----- Mil.m.sq.</i>		
Russian Fed.												
1993/94	0.036	0	0	0	0	0	0.653	0.689	0.180	0.479	0.030	2,324
1994/95 ²	0.030	0	0	0	0	0	0.457	0.487	0.170	0.283	0.034	1,500
1995/96 ³	0.034	0	0	0	0	0	0.348	0.383	0.044	0.283	0.056	1,400
Uzbekistan												
1993/94	0.334	1.70	2.58	4.376	0.30	1.321	0.001	1.656	1.306	0.174	0.175	475
1994/95 ²	0.175	1.53	2.66	4.093	0.31	1.258	0.001	1.435	1.132	0.163	0.139	473
1995/96 ³	0.139	1.50	2.69	4.032	0.31	1.250	0.001	1.390	1.067	0.174	0.149	na
Others												
1993/94	0.221	1.18	2.00	2.364	0.31	0.721	0.118	1.061	0.636	0.196	0.229	na
1994/95 ²	0.229	1.18	1.90	2.141	0.30	0.653	0.181	1.062	0.704	0.164	0.195	na
1995/96 ³	0.195	1.12	1.60	1.794	0.31	0.548	0.169	0.911	0.545	0.164	0.202	na
Total FSU												
1993/94	0.591	2.88	2.34	6.740	0.30	2.042	0.772	3.406	2.122	0.849	0.434	na
1994/95 ²	0.434	2.71	2.30	6.234	0.31	1.911	0.639	2.984	2.006	0.610	0.368	na
1995/96 ³	0.368	2.62	2.22	5.826	0.31	1.798	0.518	2.684	1.656	0.621	0.407	na

na = Not available.

¹ Cotton cloth production data are calendar year. ² Preliminary. ³ Projection.

Sources: USDA; Statkom SNG; Goskomstat Rossii; Ukrainian Ministry of Statistics.

that the state will not overly control or restrict export for hard currency, and that hard currency earnings can be repatriated.

Rising Yields Should Drive Production Up

From an average annual output of around 2 million tons over 1991/92-1995/96, annual lint cotton output could increase slightly over the next 10 years. The growth would occur despite an expected less than 5-percent decline in area over the next 10 years, as land with eroded, highly saline soil is withdrawn from production. If Central Asian governments were to liberalize their economies such that domestic prices become more responsive to world demand and prices, strong foreign demand for cotton could raise cotton prices and stimulate increased cotton production.

The likely driving force behind growing cotton output would be rising yields. Improved seeds and irrigation techniques, as well as increased exfoliant and fertilizer use, should bring yields out of the slump of the early 1990s. From annual

average yields of about 0.7 ton per hectare over 1991/92-1995/96, lint cotton yields in the region could rise to 0.85 ton per hectare by 2005. In 1995/96, FSU cotton production declined by an estimated 6 percent from the previous year, mainly because of the lack of a rural finance system, decline in input use, and worsening labor productivity.

In 1995, certain Central Asian governments reduced the freedom of cotton producers to engage in not only foreign, but also domestic, trade. In **Uzbekistan** and **Turkmenistan**, the state withdrew farmers' option to sell up to 40 percent of their output at free market prices. Although rising, state procurement price for seed cotton in **Turkmenistan**, although raised to the equivalent of \$140 per ton in March 1996, amounted to less than one-third of world market prices. Current low incentives to grow cotton is one reason why in coming years state control over domestic and foreign trade in cotton could wane. Domestic pressure could effectively combine with that from foreign investors for liberalization of the cotton economy.

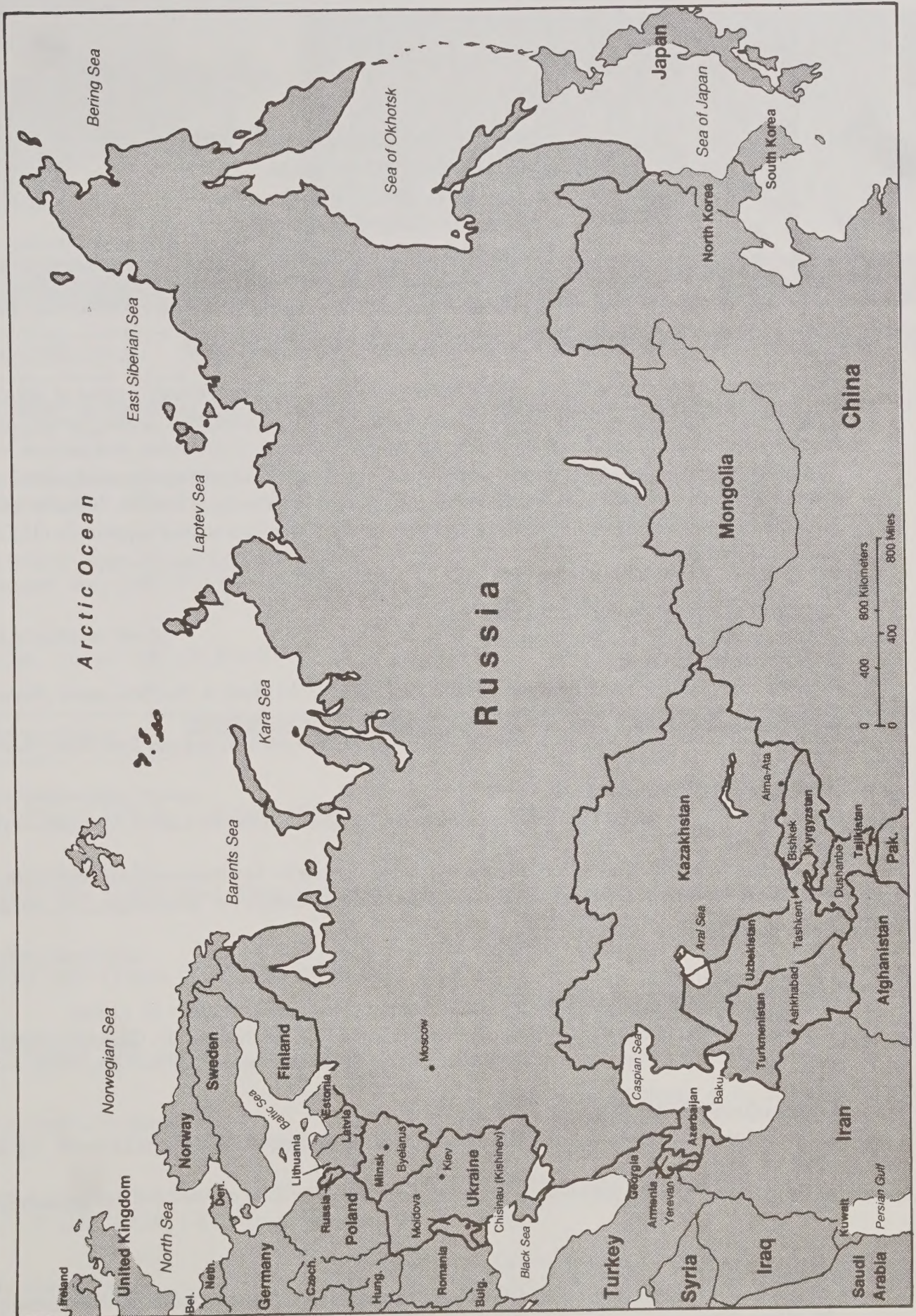
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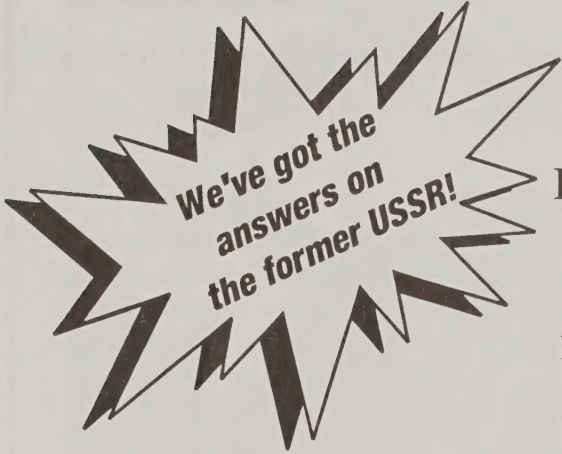
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Former Soviet Union Team

Phone: 202-219-0620

Fax: 202-219-0942

E-mail: cfoster@econ.ag.gov

Europe/Africa/Middle East Branch

Commercial Agriculture Division

Economic Research Service, USDA

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